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COURSE OF STUDY

Belleville Public
Elementary
Schools



OSCAR F. WEBER
SUPERINTENDENT

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AUGUST, 1920

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Foreword

This course of study has been prepared by the teachers of the Belleville Public Schools under the direction of Miss Pearl M. Tiley, Supervisor of Primary Grades, Mr. F. Wm. Keiner, Supervisor of Intermediate Grades, and Mr. Wm. J. Hanson, Principal of the Junior High School.

TIME ALLOTMENT.

The time schedule of studies in minutes per week, is given in the following table:

BELLEVILLE PUBLIC SCHOOLS. Time Schedule—Minutes per Week.

Grades.	I	II	III	IV	V	VI	VII	VIII	Total
Arithmetic	*150	*250	*350	*300	*300	*300	300	300—	2250
Reading	*475	*375	*250	*250	*250	*250	150	150—	2150
Language	50	50	125	150	150	150	75	75—	825
Grammar .....	..	..	..	..	..	..	75	75—	150
Geography .....	..	..	85	125	125	125	150	150—	760
History	50	50	85	125	125	125	150	150—	860
Gen. Science and Community Life.	50	50	100	120	120	120	..	300—	860
Spelling	150	175	175	150	150	150	**45	**45—	1040
Penmanship	100	75	75	75	75	75	**30	**30—	535
Drawing	75	75	75	75	75	75	..	..—	450
Physiology and Hygiene	25	25	30	30	30	30	150	..—	320
Music	100	100	100	100	100	100	..	..—	600
Physical Training..	125	125	125	75	75	75	75	75—	750
Manual Training or Domestic Science	..	..	..	..	..	..	300	300—	600
Recess	150	150	150	150	150	150	75	75—	1050
Music and General Exercise .....	..	..	..	..	..	..	**75	**75—	150
Study .....	..	..	..	..	..	..	150	..—	150
	1500	1500	1725	1725	1725	1725	1800	1800	13500

*—In subjects marked * classes recite separately. Other classes may recite together.

**—Subject to change as soon as Junior High School is reorganized. More time can then be given because the noon intermission will be shortened. In grades I and II, the time for phonics is included in the reading.

READING.

Grade I.

The Beacon system of phonics is used with the reading in the primary grades. The phonetic chart, cards, and word builders are used as outlined in the system.

The first reading is done from the Beacon Reading Chart. This is followed by the Beacon Primer. As soon as possible Brook's First Reader is taken up. It and the Beacon Primer form the basic work for this grade.

Supplementary Readers:

Grade I.

A First Reader.
Art Literature Primer.
Brook's Primer.
Cherry Tree Children.
Outdoor Primer.
Summer's Primer.
Story Readers' Primer.
Wide Awake Primer.

Aldine Primer.
Blodgett Primer.
Brownie Primer.
Little Kingdom Primer.
Rhyme & Story Primer.
Summer's First Reader.
Two Little Indians.
The Winston Primer.

Grade II.

Brook's Second Reader and Beacon First Reader are the basic books for this grade. Phonetic drills continue as outlined in the Beacon Course.

Supplementary Readers:

Aesop's Fables.
Boy Blue and His Friends.
Child Literature.
Dutch Twins.
Fairy Tales—Thompson.
Grimm's Fairy Tales.
Lodrix.
Scudder's Fables & Folk Stories.

Bow Wow & Mew Mew.
Cats and Dogs.
Children of the Cliff.
Eugene Field Reader.
Folklore Stories and Proverbs.
Hiawatha Primer.
Tree Dwellers.
Beacon First Reader.

Grade III.

The basic text is Brook's Third Reader.

Supplementary Readers:

Adventures of Pinocchio.
Early Cave Men.
Five Little Strangers.
Merry Animal Tales.
Mother West Wind's Children.
Old Mother West Wind.
Hide and Seek in Forest Land.
Winston Second Reader.

Book of Legends.
Fairy Tales—Shaw.
Great Americans.
Mother West Wind's Animal Friends.
Mother West Wind's Neighbors.
Robinson Crusoe.
Kipling Reader.

Grade IV.

Brook's Fourth Reader is used as the basic text.

Supplementary Readers:

Spring.	Art Music Reader, Book I.
Winter.	Four Old Greeks.
Autumn.	Later Cave Men.
Indian Children.	Old Greek Stories.
History Stories of Other Lands,	Water Babies.
Book I.	Fourth Reader—Horace Mann.
Third Reader—Horace Mann.	Story Hour Reader—Third Reader
Fourth Reader—Baker-Thorndike.	The Kipling Reader.

Grade V.

Brook's Fifth Reader is used as the basic text.

Supplementary Readers:

History Stories of Other Lands,	Life in the Greenwood.
Book II.	Makers of Many Things.
Old Stories of the East.	Fifth Reader—Baker-Thorndike.
King Arthur and His Knights.	Art Music Reader—Book II.
Easy Lessons About Common	Fourth Reader—Coe's School
Things.	Reader.
King Arthur and His Court.	American Hero Stories.

Grade VI.

Brook's Sixth Reader is used as the basic text.

Supplementary Readers:

Our Gold Mine.	Tales of a Grandfather.
King of the Golden River.	Wonderbook.
Song of Hiawatha.	Grandfather's Chair.
Tales of Troy.	Biinbi.
The Iron Star.	The Dog of Flanders.
Pioneer History Stories.	Fifty Famous Rides and Riders.
Sixth Reader—Baker-Thorndike.	Stories of Thrift for Young
Sixth Reader—Horace Mann.	Americans.
Arabian Nights.	

JUNIOR HIGH SCHOOL.

ENGLISH.

Reading.

Reading, for thought getting and for pleasure, although it has little that is directly in common with oral or written expression, will be carried on side by side with the work in composition. This is done in order to have variety and to avoid too much written work coming right along day after day. As the periods are sixty minutes in length, the time should be divided equally between the two as nearly as the work in hand will permit. It matters little which comes first, but a definite order should be strictly followed.

Home Reading.

The teachers are to be the leaders in the home reading of the pupils. Knowing the pupils and the available books, they can easily interest the boys and girls in books they will like and should read.

To the Pupils.

Every young person would like to become well informed and through this information grow up into an intelligent and useful citizen. This one can easily do, provided one early forms the habit of reading thoughtfully. The time to begin is now, not tomorrow. A regular time each day ought to be set aside for reading until one gets the reading habit, and then the set time may be ignored, for one's urge of mind growth and increased interest in the affairs of the world will be all the incentive one needs.

Read the newspapers for the great events that are happening. Nearly all of the magazines in the Public Library have important articles, not too difficult for good readers in the Junior High School. For all pupils, and especially for the seventh and eighth grade pupils, there are in the library the American Boy, St. Nicholas, Youth's Companion, Baseball Magazine, and the National Geographical Magazine.

Important as the reading of magazines and the newspapers is, one must not fritter away one's time reading matter that is not going to make one bigger in mind and heart and soul.

Good books are even more interesting than are the magazines and papers. They are the storehouses of the best thought of the best thinkers of all times. At your own bidding, you can sit at the feet of the greatest story tellers, or be taken by the hand by the wisest men and women the world has produced, who will do their best to interest and instruct you. You'll be surprised how soon one can acquire the habit of systematic reading if one will only make up one's mind to put in the ten to fifteen minutes every day no matter what happens.

We have made a careful selection of books for you to choose from, and your teacher will gladly help you to select the ones best adapted to your needs. During each semester, read not less than eight or ten hundred pages, nor more than twice that amount.

Get the habit of reading rapidly but thoughtfully. At the end of every chapter, stop a few minutes and jot down in a notebook the principal points read. This will fix the thoughts in your mind and will be a great help to you in reporting your reading to the teacher or the class or the school.

Home Reading.

*To be Read in Class.

(For the Teachers and the Pupils.)

1. Seven Little Sisters (Andrews)—7th.
2. Fifty Famous Stories Retold (Baldwin)—7th.
3. Black Beauty (Sewell)—7th.
4. Arabian Nights (Anonymous)—7th.
5. Water Babies (Kingsley)—7th.
6. Folk Stories and Fables (Tappan)—7th.
7. Daniel Boone (Hill)—7th.
8. Four American Patroits (Burton)—7th.
9. King of the Golden River (Ruskin)—7A.
10. Old Greek Stories (Baldwin)—7th.
11. Ten Boys, etc. (Andrews)—7th.
12. Little Lame Prince (Muloch)—7th.
13. King Arthur and His Knights (Radford)—7th and 8th.
14. American History Stories (Pratt)—7th.
15. Four Great Americans (Baldwin)—7th.
16. Rab and His Friends (Brown)—7th and 8th.
17. Many Sided Franklin (Ford)—7th.
18. Stories of Invention (Russell)—7th.
19. Jungle Book (Kipling)—7th and 8th.
20. Merry Adventures of Robin Hood (Pyle)—7th and 8th.
21. Wonder Book (Hawthorne)—7th.
22. Tanglewood Tales (Hawthorne)—7th.
23. American Heroes of History (McFee)—7th and 8th.
24. Story of a Bad Boy (Aldrich)—7th.
25. De Soto, Marquette, and LaSalle (Pratt)—7th.
1. Geographical Reader (Carpenter)—7th and 8th.
 - a. Europe.
 - b. Asia.
 - c. Australia.
 - d. Africa.
 - e. North and South America (Chamberlain)—7th & 8th.
2. Tales from Shakespeare (Lamb)—7th and 8th.
3. A Hunting of the Deer (Warner)—7th and 8th.

- *4. Rip Van Winkle (Irving)—8th and 8A.
- *5. Courtship of Miles Standish (Longfellow) 8th. 8A.
- *6. Treasure Island (Stevenson)—8A.
- 7. Little Men (Alcott)—8th.
- 8. Little Women (Alcott)—8th.
- *9. Legend of Sleepy Hollow (Irving)—8A.
- *10. Christmas Carol (Dickens)—8B.
- 11. Wild Animals I Have Known (Seton)—7th and 8th..
- *13. Hiawatha (Longfellow)—7B.
- *14. Evangeline (Longfellow)—8A.
- 15. Life of Washington (Lodge)—7th and 8th.
- 16. Boys of '61 (Coffin)—8th.
- 17. Pioneers of the Mississippi Valley (McMurry)—7th.
- 18. How to Become a Successful Electrician (Sloane)—7th & 8th.
- *19. Man Without a Country (Hale)—8A.
- *20. Enoch Arden (Tennyson)—8A.
- 21. American Inventors and Inventions (Mowry)—7th & 8th.

*To be Read in Class.

- 1. Age of Fable (Bulfinch)—8th.
- 2. Hero Tales from American History (Lodge & Roosevelt).
- 3. Boy's Life of Lincoln (Nicolay)—8th.
- 4. Tom Sawyer (Mark Twain)—8th.
- *5. Snow Bound (Whittier)—8th. 8A.
- 6. Gulliver's Travels for Young Readers (Chapman)—8th.
- 7. Call of the Wild (London)—8th.
- 8. Florence Nightingale (Richards)—8th.
- 9. Boy Scouts (Seton)—8th.
- 10. Captains of Industry (Parton)—8th.
- 11. The Great Stone Face (Hawthorne)—7th and 8th.
- 12. Robinson Crusoe (DeFoe)—8th.
- *13. Golden Touch (Hawthorne)—7B.
- 14. A Dog of Flanders (Ouida)—7th.
- *15. The Three Golden Apples (Hawthorne)—7B.
- *16. The Miraculous Pitcher (Hawthorne)—7B.
- 17. Idle Thoughts of an Idle Fellow (Jerome)—8th.

POEMS.

Read in class and memorize those marked *.

- *1. America—7B.
- *2. Columbia, the Gem of the Ocean—7B.
- *3. The Star Spangled Banner (omit 3rd stanza)—7B.
- 4. The American Flag (Jos. Rodman Drake)—8th.
- *5. Columbus—7B.
- 6. The Charge of the Light Brigade—8B.
- *7. Excelsior—7A.

8. Make Way for Liberty (Jas. Montgomery)—8th.
- *9. We Are Seven—7B.
10. The Battle of Blenheim—7A.
- *11. The Barefoot Boy—8A boys.
- *12. Paul Revere—8B.
13. The Pied Piper of Hamelin Town—8th.
- *14. Alexander Silkirk (Cowper)—7A.
15. The Bells—8A.
16. The Brook—8A.
17. Lochinvar—8A.
- *18. Maud Muller—8A girls.
- *19. The Ship of State—7A.
- *20. The Psalm of Life—8A.
21. Thanatopsis—8A.
22. To a Waterfowl—8A.
23. The May Queen—7B.
24. The Heritage (Lowell)—8A.
25. The Present Crisis (Lowell)—8A.
- *26. Your Flag and My Flag (Nesbit)—7A.
27. Barbara Fritchie (Whittier)—8B.
28. Ring Out Wild Bells—8A.
29. Captain! My Captain!—8A.
- *30. The Gettysburg Address—8A.
31. Rienzi's Address to the Romans—8A.
32. Anthony's Oration on Caesar—8A.
- *33. A Man's a Man for A' That—8A.
34. One Horse Shay—8A.
- *35. The Blue and Gray—8A.
- *36. Home, Sweet Home—8B.
37. Elegy Written in a Country Church-Yard—8A.
38. The Vagabonds (J. T. Trowbridge)—8A.
39. The Boys (O. W. Holmes)—8A.
- *40. If To Do Were As Easy, etc. (M. of V.)—7th and 8th.

Comment.

Silent reading should be practiced at least thirty minutes once a week. Give the children a minute or two to read as much as a good reader ought to read in the time allotted. Ask them to close their books and then test them to see if they can reproduce all of the thought. See if you cannot constantly increase the reading to be done each minute until their maximum is reached.

RHYMES AND POEMS.

KINDERGARTEN.

Five little squirrels up in a tree,
This squirrel says, "What do I
see?"

This squirrel says, "I smell a
gun!"

This squirrel says, "O let's run!"

This squirrel says, "Let's hide in
the shade!"

This squirrel says, "I'm not
afraid!"

Bang! went a gun, and they ran,
every one.

Jack be nimble, Jack be quick,
Jack jump over the candle stick.

Rock-a-bye baby, on the tree-top,
When the wind blows, the cradle
will rock;

If the bough bends, the cradle
will fall,

And down will come rock-a-bye,
baby and all.

Ding dong bell, pussy's in the well,
Who put her in? Little Johnny
Green.

Who pulled her out? Big Johnny
Stout.

What a naughty boy was that
To try to drown poor pussy-cat,
Who never did him any harm
But killed the mice in his father's
barn.

Little Boy Blue, come blow your
horn,

The sheep are in the meadow, the
cows in the corn.

Where is the little boy that tends
the sheep?

He is under the hay-stack fast
asleep.

Jack and Jill went up the hill,
To get a pail of water;
Jack fell down and broke his
crown,
And Jill came tumbling after.

Little Jack Horner, sat in a
corner,
Eating a Christmas pie;
He put in his thumb, and pulled
out a plum.
And said, "What a good boy
am I!"

Little Miss Muffet, sat on a tuffet,
Eating curds and whey;
There came a big spider, and sat
down beside her,
And frightened Miss Muffet away.
(Song.)

This little cow eats grass,
This little cow eats hay,
This little cow drinks water,
This little cow runs away.
This little cow does nothing
But just lie down all day.
We'll whip her!

Diddle, diddle dumpling, my son
John
Went to bed with his stocking on,
One stocking off, one stocking on,
Diddle, diddle dumpling, my son
John. (Song.)

There was an old woman who lived
in a shoe,

She had so many children, she
didn't know what to do.

She gave them some broth with-
out any bread

And whipped them all soundly,
and sent them to bed.

Humpty Dumpty sat on a wall,
Humpty Dumpty had a great fall,
All the king's horses and all the
king's men,
Couldn't put Humpty Dumpty to-
gether again. (Song.)

One two, buckle my shoe;
Three four, shut the door;
Five six, pick up sticks;
Seven eight, lay them straight;
Nine ten, a good fat hen.

Pussy cat, pussy cat, where have
you been?
I've been to London to visit the
queen.
Pussy cat, pussy cat, what saw you
there?
I saw a little mouse under a chair.

Mary, Mary, quite contrary, how
does your garden grow?
With silver bells and cockle shells
and pretty maids all in a row.

Wee Willie Winkie runs through
the town,
Upstairs and downstairs, in his
nightgown.
Rapping at the window, crying
through the lock:
"Are the children in their beds,
for now it's eight o'clock."
(Song.)

Bow wow wow, whose dog art
thou?
Little Tommy Tinker's dog, Bow
wow wow.

Hey diddle diddle, the cat and the
fiddle,
The cow jumped over the moon;
The little dog laughed to see such
sport,

And the dish ran away with the
spoon.

Baa baa black sheep, have you
any wool?

Yes sir, yes sir, three bags full;
One for my master, one for my
dame,

And one for the little boy that
lives in the lane. (Song.)

Sing a song of sixpence, a pocket
full of rye,

Four and twenty blackbirds baked
in a pie.

When the pie was opened, the
birds began to sing,

Wasn't that a dainty dish, to set
before the king? (Song.)

Little Bo Peep has lost her sheep
and can't tell where to find
them,

Leave them alone and they'll
come home, wagging their
tails behind them. (Song.)

Pat-a-cake, pat-a-cake, baker's
man!

So I will Master as fast as I can.
Roll it, and prick it, and cross it
with T,

And toss it in the oven for baby
and me!

Ride a rock-horse to Banbury
Cross,

To see an old woman upon a white
horse;

Rings on her fingers, and bells on
her toes,

She shall have music wherever she
goes!

There was a crooked man, and he
went a crooked mile;
He found a crooked sixpence
against a crooked stile.
He bought a crooked cat, which
caught a crooked mouse;
And they all lived together, in a
little crooked house.

Bye, Baby-bunting
Daddy's gone a-hunting
To get a little rabbit's skin,
To wrap the baby-bunting in.
(Song.)

Little Tommy Tucker
Sings for his supper.
What shall he eat?
White bread and butter;
How shall he cut it
Without any knife?
How shall he marry
Without any wife?

Old Mother Hubbard
She went to the cupboard
To get her poor dog a bone;
When she got there,
The cupboard was bare
And so the poor dog had none.

Little Robin Redbreast
Sat upon a rail;
Niddle-noddle went his head,
Wiggle-waggle went his tail.

Little drops of water,
Little grains of sand
Make the mighty ocean
And the pleasant land.

I'll tell you a story
About Jack a' Nory
And now my story's begun,
I'll tell you another
About Jack and his brother,
And now my story's done.

Lady-bird, lady-bird
Fly away home!
Your house is on fire!
Your children will burn.

Peas-porridge hot!
Peas-porridge cold!
Peas-porridge in the pot
Nine days old!
Some like it hot,
Some like it cold,
Some like it in the pot
Nine days old.

To market, to market to buy a fat
pig!
Home again, home again, jiggety-
jig!
To market, to market to buy a
fat hog!
Home again, home again, jiggety-
jog!
To market, to market, to buy a
plum-bun!
Home again, home again, market
is done!

See-saw, Margery Daw,
Jack shall have a new master;
He shall have but a penny a day,
Because he can't work any faster.

Little Polly Flinders
Sat among the cinders,
Warming her pretty little toes;
Her mother came and caught her,
And whipped her little daughter
For spoiling her nice new clothes.
Jack Spratt could eat no fat,
His wife could eat no lean;
And so betwixt them both, you
see,
They kept the platter clean.

This little pig went to market;
This little pig stayed at home;
This little pig had roast beef;
This little pig had none;
This little pig cried, "Wee, wee,
wee,"
All the way home!

Old King Cole was a merry old
soul,
And a merry old soul was he;
He called for his pipe, and he
called for his bowl,
And he called for his fiddlers
three.

The Queen of Hearts she made
some tarts,
All on a summer's day,
The Jack of Hearts, he stole those
tarts
And then he ran away.

Higgilty, piggilty, my black hen,
She lays eggs for gentlemen,
Sometimes nine and sometimes
ten,
Higgilty, piggilty, my black hen.

RHYMES AND POEMS.

GRADE I.

A sunshiny shower
Will not last half an hour.

March winds and April showers
Bring forth the May flowers.

Politeness is to do and say
The kindest thing in the kindest
way.

Tulips in the garden grow;
Don't they make it gay?
I'm very fond of tulips;
I'll pick one if I may.

I had a little pony,
His name was Dapple-Gray;
I lent him to a lady
To ride a mile away;
She whipped him, she lashed him,
She rode him thru the mire;
I would not lend my pony now
For all the lady's hire.

There was a little girl,
And she had a little curl,
And it hung right down on her
forehead;

When she was good,
She was very, very good,
But when she was bad, she was
horrid.

Dance, little Baby, dance up high!
Never mind, Baby, Mother is by;
Crow and caper, caper and crow,
There, little Baby, there you go!
Up to the ceiling, down to the
ground,
Backward, and forward, round
and round;
Dance, little Baby, and Mother
will sing,
While the merry bells go ting-a-
ling-ling.

Great A, little a,
Bouncing B,
The cat's in the cupboard,
And she can't see.

Georgie-porgie, pudding and pie,
Kissed the girls and made them
cry;
When the girls went out to play
Georgie-porgie ran away.

Cloud, cloud, don't stay today,
But spread your wings, and fly
away.

There was a man of our town,
And he was wond'rous wise;
He jumped into a bramble-bush,
And scratched out both his eyes;
And when he saw his eyes were
out.

With all his might and main,
He jumped into another bush
And scratched them in again.

The north wind doth blow, and
we shall have snow,
And what will poor Robin do
then, poor thing?
He'll sit in the barn, and keep
himself warm,
And hide his head under his wing,
poor thing.

Mother often tells me, and of
course she knows,
That clean hands and face make
me sweet as a rose.

Cushy cow bonny, let down thy
milk,
And I will give thee a gown of
silk;
A gown of silk and a silver tee
If you will let down thy milk to
me.

Old woman, old woman, old
woman, said I,
O whither, O whither, O whither,
so high?
To sweep the cobwebs from the
sky,
And I shall be back bye and bye.

Little robin redbreast sat upon a
tree,
Up went pussy cat, down went he;

Down came pussy cat, away robin
ran;
Said little robin redbreast, "Catch
me if you can."

Thistle seed, thistle seed, fly
away, fly;
The hair on your body will take
you up high;
Let the wind whirl you around and
around,
You'll not hurt yourself when you
fall to the ground.

Now the leaves come fluttering
down,
Red, and yellow, russet and
brown,
Gently falling, one by one,
Ready to sleep, for their work is
done.

Good night,
Sleep tight,
Wake up bright
In the morning light,
To do what's right
With all your might.

Two eyes and only one mouth
have you;
The reason for this must be
That you should learn that it will
not do
To talk about all you see.

Some little mice sat in a barn to
spin,
Pussy came by and put her head
in;
"Shall I come in and cut off your
threads?"
"O no, kind sir, you would cut off
our heads!"

If wishes were horses, beggars
would ride;
If turnips were watches, I would
wear one by my side.

If all the world were apple pie,
and all the sea were ink,
And all the trees were bread and
cheese, what should we have
to drink?

Simple Simon met a pieman
Going to the fair;
Said Simple Simon to the pieman,
“Let me taste your ware.”
Said the pieman to Simple Simon
“Show me first your penny.”
Said Simple Simon to the pieman,
“Indeed I haven’t any.”

“I saw a ship a-sailing”—Page
103, Reader.

I love little kitty,
Her coat is so warm,
And if I don’t hurt her
She’ll do me no harm.

She never does mischief
But always is nice,
And at night in the kitchen
She watches for mice.

She sleeps in a basket
And has a good nap,
And at night in the kitchen
She watches for mice.

So I’ll not pull her tail
Nor drive her away,
But kitty and I
Very gently will play.

THE COW.

The friendly cow, all red and
white,
I love with all my heart;

She gives me cream with all her
might
To eat with apple tart.

She wanders lowing here and
there,
And yet she can not stray;
All in the pleasant open air,
The pleasant light of day.

And blown by all the winds that
pass,
And wet by all the showers
She walks among the meadow
grass,
And eats the meadow flowers.

—R. L. S.

My face is as round as your’s,
little girl,
But I have no eyes to see;
My hands are busy the live-long
day,
As busy as they can be;
Sometimes they speak that you
may know
How fast the hours and minutes
go.

THANKSGIVING DINNER.

A bustle in the kitchen,
A smell of cakes and pies,
Children running everywhere,
With bright and wondering eyes.

Rows and rows of good things
On the closet shelves,
A cunning little table,
All to themselves.

Such a splendid dinner
Coming on at last,
Knives and forks a-clattering,
Tongues that go as fast.

Apples in the evening,
Lots of merry play;
All this fun at Grandma's
On Thanksgiving Day.

SANTA.

Who is it comes with his reindeer,
Over the ice and snow?
With a sleigh just full of good
things?
Tell me if you know.

Just listen to his sleigh bells,
They are ringing out so clear,
And they tell us as we listen
That Santa Claus is near.

Santa Claus came down the chimney,
But I tell you he was black!
Soot got on his hair and whiskers,
Soot got on his precious pack.

Then the wise old fellow wondered
"Here's a pretty howd'y do—
I should say these careless people
Quite forgot to clean their flue."

Guess I'll have to leave a note
Pasted up against the wall—
"When you're looking for my
visit
Clean your chimneys, one and
all."

ROBIN'S SONG.

I hear a cheery song,
'Tis little robin red.
"Get up, get up," he seems to
sing,
"Get up from sleepy bed.

"Fly in the cool air sweet,
Run in the grass with me,
Watch out for worms; they're
good to eat,
I pick up all I see.

"Why do you lie in bed
When waking is such fun?
Night is the time for rest and
sleep,
But joy comes with the sun."

THE DANDELION.

O dandelion, yellow as gold, what
do you do all day?
I just wait here in the tall green
grass, till the children come
to play.
O dandelion, yellow as gold, what
do you do all night?
I wait and wait till the cool dews
fall, and my hair grows long
and white.
And what do you do when your
hair is white and the children
come to play?
They take me up in their dimpled
hands, and blow my hair
away.

THE SWING.

How do you like to go up in a
swing,
Up in the air so blue?
Oh, I do think it the pleasantest
thing
Ever a child can do!

Up in the air and over the wall,
Till I can see so wide,
Rivers and trees and cattle and all
Over the countryside.

Till I look down on the garden
green,
Down on the roof so brown—
Up in the air I go flying again,
Up in the air and down.

—R. L. S.

The red is for love,
The blue is for true,
And the white is for purity.

Be good and you will be happy.

East or west,
Home is best.

When buds of March begin to
swell
'Tis time for chicks to break the
shell.

“Lincoln, brave and true,
Our hearts honor you,
Long wave the flag you loved,
Red, white and blue.”

I love the name of Washington,
I love my country, too,
I love the flag, the dear old flag,
Of red, white and blue.

THE NEW MOON.

Dear Mother, how pretty the moon
looks tonight!

She was never so cunning before;
Her two little horns are so sharp
and so bright

I hope she'll not grow anymore.

If I were up there, with you and
my friends,

We'd rock in it nicely you'd see;
We'd sit in the middle and hold
by both ends;

O what a bright cradle 'twould
be!

We'd call to the stars to keep out
of the way,

Lest we should rock over their
toes;

And then we would rock till the
dawn of the day

And see where the pretty moon
goes.

And there we would stay in the
beautiful skies,

And through the bright clouds we
would roam;

We'd see the sun set and see the
sun rise,

And on the next rainbow come
home. —Eliza Follen.

SANTA CLAUS.

Christmas morning clear and
bright,

Who do you think was here last
night?

Bundled in fur from top to toe—
I won't tell for I think you know.

Who was it came from cold snow
land,

Driving gaily his eight in hand?
Sleigh piled up with wonderful
toys—

Who was it? Tell me girls and
boys?

Who was it down the chimney
crept,

While all the children soundly
slept

Filled the stockings and packed
them all

With “Merry Christmas, one and
all?”

RHYMES AND POEMS.

GRADE II.

A LINNET.

A linnet in a gilded cage—
A linnet on a bough,—
In frosty winter one might doubt
Which bird is luckier now.

But let the trees burst out in leaf,
And nests be on the bough,
Which linnet is the luckier bird,
Oh, who could doubt it now?

—C. Rossetti.

A DIAMOND OR A COAL?

A diamond or a coal?
A diamond, if you please;
Who cares about the clumsy coal
Beneath the summer trees?

A diamond or a coal?
A coal, sir, if you please;
One comes to care about the coal
At times when waters freeze.

—C. Rossetti.

AT THE SEASIDE.

When I was down beside the sea
A wooden spade they gave to me
To dig the sandy shore,
My holes were empty like a cup,
In every hole the sea came up,
Till it could come no more.

—R. L. Stevenson.

WHOLE DUTY OF CHILDREN.

A child should always say what's
true,
And speak when he is spoken to,
And behave mannerly at table,
At least as far as he is able.

—R. L. Stevenson.

RAIN.

The rain is raining all around,
It falls on field and tree,
It falls on the umbrellas here,
And on the ships at sea.

—R. L. Stevenson.

DAISIES.

Where the pretty bright-eyed
daisies are,
With blades of grass between,
Each daisy stands up like a star
Out of a sky of green.

—C. Rossetti.

THE LITTLE ELF.

I met a little Elf-man once,
Down where the lilies blow,
I asked him why he was so small,
And why he didn't grow.

He slightly frowned, and with his
eye

He looked me through and
through;

"I'm quite as big for me," said he,
"As you are big for you."

—John Kendrick Bangs.

THE BIRTHDAY GIFT.

What can I give him,
Poor as I am?

If I were a shepherd
I would bring a lamb;

If I were a wise man
I would do my part.

Yet what can I give him?

Give my heart. —C. Rossetti.

THE WIND.

Who has seen the wind?
Neither you nor I;
But when the trees bow down
their heads
The wind is passing by.

Who has seen the wind?
Neither I nor you;
But when the leaves hang trem-
bling
The wind is passing through.
—C. Rossetti.

BE GLAD.

Is it raining, little flower?
Be glad of rain.
Too much sun would wither thee;
'Twill shine again.
The clouds are very thick, 'tis
true,
But right behind them shines the
blue.

September waves his goldenrod
Across the lanes and hollows;
And saunters round the sunny
fields
A-playing with the swallows.

For every sunny hour, a drop of
rain;
For every cloudy day, the stars
again;
For every passing care, a mother's
kiss;
And what could be better, my
child, than this?

October's woods are red and
brown,
October's leaves are falling down,
And bright-eyed squirrels scam-
per round,
Gathering nuts upon the ground.

"The loud winds are calling,
The ripe nuts are falling,
The squirrel now gathers his
store;
The bears, homeward creeping,
Will soon all be sleeping
So snugly till winter is o'er."
—Emelie Poulson.

"The world is such a pleasant
place
For any child to be,
With pleasant things to sing about
And pleasant things to see.
And other little children near
And pleasant roads to go,
And many things a-happening
Which only children know."
—Carolyn S. Bailey.

"Wake up, little snowdrop, wake
up, crocus dear,
Robin redbreast is singing that
sweet spring is here,
Who would not be happy when
the skies are blue?
Robin redbreast is singing, 'I've
come back to you.'"

"Happy hearts and faces,
Happy play in grassy places;
That was how in ancient ages
Children grew to kings and sages."
—R. L. S.

I'm a pretty little thing
Always coming with the spring,
In the meadows green I'm found
Peeping just above the ground,
And my stalk is covered flat
With a green and yellow hat.

A RIDDLE.

I went to the wood, and got it;
I sat me down, and looked at it;
The more I looked, the less I liked
it;
And I brought it home, because I
couldn't help it. —A thorn.

SLEEP, BABY, SLEEP.

Sleep, baby, sleep,
Thy father watches his sheep;
Thy mother is shaking the dream-
land tree,
And down drops a little dream on
thee,
Sleep, baby, sleep.

Sleep, baby, sleep,
The large stars are the sheep;
The little stars are the lambs, I
guess;
The gentle moon is the shep-
herdess,
Sleep, baby, sleep.

BED IN SUMMER.

In winter I get up at night,
And dress by yellow candle light.
In summer quite the other way—
I have to go to bed by day.

I have to go to bed and see
The birds still hopping on the tree,
Or hear the grown-up people's feet
Still going past me on the street.

And does it not seem hard to you
When all the sky is clear and blue,
And I should like so much to play,
To have to go to bed by day?

—R. L. S.

A RIDDLE.

“My face is as round as yours,
little girl,
But I have no eyes to see;
My hands are busy the live-long
day,
As busy as they can be.
Sometimes I speak that you may
know
How fast the hours and minutes
go.”

RIDDLES.

Flour of England, fruit of Spain,
Met together in a shower of rain;
Put in a bag tied round with a
string—
If you'll tell me this riddle, I'll
give you a ring.
(A plum pudding.)

Old Mother Twitchett had but one
eye
And a long tail which she let fly;
And every time she went over a
gap
She left a bit of her tail in a trap.
(A needle and thread.)

What shoemaker makes shoes
without leather,
With all the four elements put to-
gether?
Fire and water, earth and air,
Every customer has two pair.
(A horseshoer.)

Black we are, but much admired,
Men seek for us till they are tired;
We tire the horse, but comfort
man;
Tell me this riddle, if you can.
(Coals.)

Two-legs sat upon Three-legs
With One-leg in his lap;
In comes Four-legs,
And runs away with One-leg;
Up jumps Two-legs,
Catches up Three-legs,
Throws it after Four-legs,
And makes him bring One-leg
back.

(A man, a stool, a leg of mutton,
a dog.)

Black within and red without,
Four corners round about.
(A chimney.)

As round as an apple,
As deep as a cup,
And all the King's horses
Can't pull it up. (A well.)

Little Nancy Eddicoat
In a white petticoat
With a red nose,
The longer she stands
The shorter she grows.
(A candle.)

As soft as silk, as white as milk,
As bitter as gall, a thick wall,
And a green coat cover us all.
(A walnut.)

A hill full, a hole full,
Yet you cannot catch a bowl full.
(The mist.)

Apple-pie, pudding, and pan-cake,
All begins with a.

Hick-a-more, Hack-a-more,
On the king's kitchen door;
All the king's horses and all the
king's men
Couldn't drive Hick-a-more, Hack-
a-more
Off the king's kitchen door.
(The sunshine.)

Thirty white horses upon a red
hill,
Now they tramp, now them champ,
now they stand still.
(The teeth and gums.)

I have a little sister, they call her
Peep-peep;
She wades in the water, deep,
deep, deep;
She climbs the mountains high,
high, high.
My poor little sister, she has but
one eye. (A star.)

As I was going to Saint Ives,
I met a man and seven wives;
Each wife had seven sacks,
Each sack had seven cats;
Each cat had seven kits;
Kits, cats, sacks, and wives,
How many were going to Saint
Ives? (One.)

In marble halls as white as milk,
Lined with a skin as soft as silk,
Within a fountain crystal-clear,
A golden apple doth appear;
No doors there are to this strong-
hold,
Yet thieves break in and steal the
gold. (An egg.)

Cock crows in the morning to tell
us to arise,
And he who lies late can never be
wise;
For early to bed and early to rise
Is the way to be healthy and
wealthy and wise.

How many stars are in the sky?
More than you can count or I;
How many drops are in the seas?
How many leaves upon the trees?
How many grains of sand on the
shore?
Count all you can, and there are
more.

RHYMES AND POEMS.

GRADE III.

SEPTEMBER.

The goldenrod is yellow;
The corn is turning brown;
The trees in apple orchards
With fruit are bending down.

The gentian's bluest fringes
Are curling in the sun;
In dusty pods the milkweed
Its hidden silk has spun.

The sedges flaunt their harvest
In every meadow nook;
And asters by the brookside
Make asters in the brook.

From dewy lanes at morning
The grapes' sweet odors rise;
At noon the roads all flutter
With yellow butterflies.

By all these lovely tokens
September days are here,
With summer's best of weather,
And autumn's best of cheer.
—H. H. Jackson.

SWEET AND LOW.

Sweet and low, sweet and low,
Wind of the western sea,
Low, low, breathe, and blow,
Wind of the western sea!
Over the rolling waters go,
Come from the dying moon, and
blow,
Blow him again to me,
While my little one, while my
pretty one sleeps.

Sleep and rest, sleep and rest,
Father will come to thee soon,
Rest, rest on mother's breast,

Father will come to thee soon,
Father will come to his babe in
the nest;
Silver sails all out of the west,
Under the silver moon;
Sleep, my little one, sleep my
pretty one, sleep.

—Tennyson.

GOOD MORNING.

The year's at the spring,
The day's at the morn;
Morning's at seven;
The hillside's dew-pearled;
The lark's on the wing;
The snail's on the thorn;
God's in his heaven—
All's right with the world.

—Robert Browning.

MARCH.

The cock is crowing,
The stream is flowing,
The small birds twitter,
The lake doth glitter,
The green field sleeps in the sun;
The oldest and youngest
Are at work with the strongest;
The cattle are grazing;
Their heads never raising
There are forty feeding like one.

Like an army defeated
The snow hath retreated,
And now doth fare ill
On the top of the bare hill;
The plough-boy is whooping--
anon-anon;
There's joy in the mountains,
There's life in the fountains,

Small clouds are sailing,
Blue sky prevailing;
The rain is over and gone.
—Wordsworth.

Come when you're called;
Do what you're bid;
Shut the door after you;
Never be chid.

“The man in the moon, who sails
the skies,
Is a most courageous skipper;
But he made a mistake when he
tried to take
A drink from out of the dipper.
He dipped it into the milky way,
And slowly, carefully filled it;
But the big bear howled, and the
little bear growled,
And scared him so that he spilled
it.”

WHO STOLE THE BIRD'S NEST?

“To-whit! to-whit! to-whee!
Will you listen to me?
Who stole four eggs I laid,
And the nice nest I made?”
“Not I,” said the cow, “Moo-oo!
Such a thing I'd never do.
I gave you a wisp of hay,
But didn't take your nest away.
“Not I,” said the cow, “Moo-oo!
Such a thing I'd never do.”

“To-whit! to-whit! to-whee!
Will you listen to me?
Who stole four eggs I laid,
And the nice nest I made?”

“Bob-o'-Link! Bob-o'-Link!
Now what do you think?
Who stole a nest away
From the plum tree today?”

“Not I,” said the dog, “Bow-
wow!
I wouldn't be so mean I vow!
I gave hairs the nest to make,
But the nest I did not take.
“Not I,” said the dog, “Bow-
wow!
I'm not so mean anyhow.”

“To-whit! to-whit! to-whee!
Will you listen to me?
Who stole four eggs I laid,
And the nice nest I made?”

“Bob-o'-Link! Bob-o'-Link!
Now what do you think?
Who stole a nest away
From the plum tree today?”

“Coo-coo! Coo-coo! Coo-coo!
Let me speak a word, too!
Who stole that pretty nest
From little yellow-breast?”

“Not I,” said the sheep, “Oh, no!
I wouldn't treat a poor bird so.
I gave wool the nest to line,
But the nest was none of mine.
“Baa, baa!” said the sheep, “Oh,
no!
I wouldn't treat a poor bird so.”

(Same as stanza 1.)
(Same as stanza 4.)
(Same as stanza 8.)

“Caw! Caw!” cried the crow,
“I should like to know
What thief took away
A bird's nest today?”

“Cluck! cluck!” said the hen,
“Don't ask me again,
Why I haven't a chick
Would do such a trick.
We all gave her a feather,
And she wove them together,

I'd scorn to intrude
On her and her brood.
"Chuck! cluck!" said the hen,
"Don't ask me again."

"Chirr-a-whirr! Chirr-a-whirr!
All the birds made a stir!
Let us find out his name,
And all cry 'For shame!'"

A little boy hung down his head,
And went and hid behind the bed,
For he stole that pretty nest
From the little yellow-breast.
And he felt so full of shame
He didn't like to tell his name.

—Lydia Maria Child.

THE DOVE.

I had a dove, and the sweet dove
died;
And I have thought it died of
grieving;
Oh, what could it grieve for? It's
feet were tied
With a silken thread of my own
hand's weaving;
Sweet little red feet! Why should
you die—
Why would you leave me, sweet
bird, why?
You lived alone in the forest tree,
Why, pretty thing, would you not
live with me?
I kissed you oft and gave you
white peas;
Why not live sweetly as in the
green trees?

—John Keates.

ROBERT OF LINCOLN.

(Bryant.)

Merrily singing on brier and weed,
Near to the nest of his little dame,
Over the mountain side or mead,

Robert of Lincoln is telling his
name;

"Bob-o-link, bob-o-link,
Spink, spank, spink;

Snug and safe in this nest of ours,
Hidden among the summer flow-
ers,

Chee, chee, chee."

Robert of Lincoln is gaily dressed,
Wearing a bright, black wedding
coat;

White are his shoulders, and white
his crest,

"Bob-o-link, bob-o-link,
Spink, spank, spink;

Look what a nice new coat is
mine;

Sure, there was never a bird so
fine;

Chee, chee, chee."

Robert of Lincoln's Quaker wife,
Pretty and quiet, with plain brown
wings,

Passing at home a patient life,
Broods in the grass while her hus-
band sings:

"Bob-o-link, bob-o-link,
Spink, spank, spink;

Brood, kind creature, you need
not fear

Thieves and robbers while I am
here.

Chee, chee, chee."

Six white eggs on a bed of hay,
Flecked with purple, a pretty
sight,

There, as the mother sits all day,
Robert is singing with all his
might:

"Bob-o-link, bob-o-link,
Spink, spank, spink;

Nice good wife that never goes
out,
Keeping house while I frolic
about,
Chee, chee, chee."

Soon as the little ones chip the
shell,
Six wide mouths are open for
food,
Robert of Lincoln bestirs him
well
Gathering seeds for the hungry
brood,

"Bob-o-link, bob-o-link,
Spink, spank, spink;
This new life is likely to be
Hard for a gay young fellow like
me.
Chee, chee, chee."

Summer wanes; the children are
grown;
Fun and frolic no more he knows,
Robert of Lincoln's a humdrum
crone;

Off he flies, and we sing as he
goes:

"Bob-o-link, bob-o'-link,
Spink, spank, spink.
When you can pipe that merry old
strain,
Robert of Lincoln, come back
again.

Chee, chee, chee!"

If all were rain and never sun,
No bow could span the hill;
If all were sun and never rain,
There'd be no rainbow still.

—C. Rossetti.

"He prayeth best who loveth best
All things both great and small,
For the dear God who loveth us
He made and loveth all."

—Coleridge.

DAYS OF BIRTH.

Monday's child is fair of face,
Tuesday's child is full of grace,
Wednesday's child is full of woe,
Thursday's child has far to go.
Friday's child is loving and
giving,
Saturday's child works hard for
its living,
And the child that is born on the
Sabbath day
Is fair and wise and good and gay.

ARIEL'S SONG.

Where the bee sucks, there suck I;
In the cowslip's bell I lie;
There I couch when owls do cry,
On the bat's back I do fly,
After summer merrily;
Merrily, merrily, shall I live now
Under the blossom that hangs on
the bough.
—Shakespeare (The Tempest.)

Thirty days has September,
April, June and November;
All the rest have thirty-one,
Excepting February alone,
Which hath but twenty-eight in
fine,
Till leap-year gives it twenty-nine.

THE OWL AND THE PUSSY CAT.

The owl and the pussy cat went to
sea
In a beautiful pea-green boat;
They had some honey and plenty
of money
Wrapped up in a five pound note.
The owl looked up to the moon
above,
And sang to a small guitar:

“O, lovely Pussy, O Pussy, my
love,
What a beautiful pussy you are,
you are,
What a beautiful pussy you are!”

Pussy said to the owl: “You elegant fowl!

How wonderfully sweet you sing!
O let us be married,—too long we
have tarried,—

But what shall we do for a ring?”
They sailed away for a year and
a day

To the land where the Bong tree
grows;

And there in the wood, a Piggy
wig stood,

With a ring at the end of his nose,
his nose,

With a ring at the end of his nose.

“Dear Pig, are you willing to sell
for one shilling

Your ring?” Said the Piggy, “I
will.”

So they took it away, and were
married next day

By the turkey who lives on the
hill.

They dined upon mince and slices
of quince,

Which they ate with a runcible
spoon,—

And hand in hand on the edge of
the sand,

They danced by the light of the
moon,—the moon,

They danced by the light of the
moon. —Edward Lear.

THE THROSTLE.

“Summer is coming, summer is
coming,
I know it, I know it, I know it;

Light again, leaf again, life again,
love again,”
Yes, my wild little poet.

Sing the new year in under the
blue,

Last year you sang it as gladly;
“New, new, new, new!” Is it then
so new

That you should carol so madly?

“Love again, song again, nest
again, young again.”

Never a prophet so crazy!
And hardly a daisy, as yet, little
friend,

See there is hardly a daisy.

“Here again, here, here, here,
happy year!”

O warble unhidden, unbidden!
Summer is coming, is coming, my
dear,

And all the winters are hidden.
—Tennyson.

“Think of the lonely.”
(Page 137, Brook’s Reader.)

A BOY’S SONG.

Where the pools are bright and
deep,

Where the gray trout lies asleep,
Up the river and over the lea,
That’s the way for Billie and me.

Where the blackbird sings the
latest,

Where the hawthorn blooms the
sweetest,

Where the nestlings chirp and flee,
That’s the way for Billie and me.

Where the mowers mow the
cleanest,

Where the hay lies thick and
greenest,

Where to trace the homeward bee,
That’s the way for Billie and me.

SIR ROBIN.

Where the hazel bank is steepest,
Where the shadow falls the
deepest,
Where the clustering nuts fall
free,
That's the way for Billie and me.

Why the boys should drive away
Little sweet maidens from the
play,
Or love to banter and fight so well,
That's the thing I never could tell.

But this I know, I love to play,
Through the meadow, among the
hay;
Up the water and over the lea,
That's the way for Billie and me.
—James Hogg.

“Help one another, the snow-
flakes said
As they cuddled down in their
fleecy bed,
“One of us here would not be felt,
One of us here would quickly melt,
But I'll help you, and you help
me,
And then what a splendid drift
there'll be.”

“A little child may have a loving
heart
Most dear and sweet;
And willing feet.

“A little child may have a happy
hand
Full of kind deeds
For many needs.

“A little child may have a gentle
voice
And pleasant tone
For every one.”

Rollicking Robin is here again;
What does he care for the April
rain?
Care for it? Glad of it. Does he
know
That the April rain carries off the
snow,
And coaxes out leaves to shadow
his nest,
And washes his pretty red Easter
vest,
And makes the juice of the cherry
sweet,
For his hungry little robins to
eat?
“Ha, ha, ha!” hear the jolly bird
laugh;
“That isn't the best of the story,
by half!”

Gentleman Robin, he walks up
and down,
Dressed in orange tawny and
black and brown;
Though his head is so proud and
his step is so firm,
He can always stoop to pick up a
worm.

With a twist of his head and a
strut and a hop,
To his Robin wife, in the peach
tree top,
Chirping her heart out, he calls:
“My dear,

You don't earn your living! Come
here! Come here!
Ha, ha, ha, life is lovely and sweet;
But what would it be if we'd noth-
ing to eat?”

Robin, Sir Robin, gay, red vested
knight,
Now you have come to us, sum-
mer's in sight,

You never dream of the wonders
you bring,—
Visions that follow the flash of
your wing.
How all the beautiful by and by
Around you and after you seem
to fly!
Sing on, or eat on, as pleases your
mind!
Well you have earned every mor-
sel you find.
“Ay! ha, ha, ha!” whistles Robin,
“My dear,
Let us all take our own choice of
good cheer.”

—Lucy Larcom.

SEVEN TIMES ONE.

There's no dew left on the daisies
and clover,
There's no rain left in heaven;
I've said my “seven times” over
and over,
Seven times one are seven.

I am old, so old I can write a
letter;
My birthday lessons are done;
The lambs play always, they know
no better—
They are only one times one.

O moon in the night I have seen
you sailing
And shining so round and low;
You were bright, ah bright! but
your light is failing—
You are nothing now but a bow.

You moon, have you done some-
thing wrong in heaven,
That God has hidden your face?
I hope, if you have, you will soon
be forgiven,
And shine again in your place.

O velvet bee, you're a dusty
fellow;
You've powdered your legs with
gold!
O brave marshmary buds, rich and
yellow,
Give me your money to hold!
And show me your nest with the
young ones in it,—
I will not steal it away;
I am old! you may trust me, lin-
net, linnnet,—
I am seven times one today!
—Jean Ingelow.

A DUTCH LULLABY.

Wynken, Blynken, and Nod one
night,
Sailed off in a wooden shoe,
Sailed on a river of misty light,
Into a sea of dew.

“Where are you going, and what
do you wish?”
The old moon asked the three.
“We have come to fish for the
herring fish
That live in this beautiful sea;
Nets of silver and gold have we,”
Said Wynken, Blynken and Nod.

The old moon laughed, and sang
a song,
As they rocked in the wooden
shoe;
And the wind that sped them all
night long
Ruffled the waves of dew.

The little stars were the herring
fish
That lived in the beautiful sea;
“Now cast your nets wherever
you wish,
But never afear'd are we,”

So cried the stars to the fisher- men three— Wynken, Blynken and Nod. Wynken and Blynken are two little eyes, And Nod is a little head; And the wooden shoe that sailed the skies Is the wee one's trundle bed.	So shut your eyes while mother sings Of wonderful sights that be, And you shall see the beautiful things As you rock on the misty sea Where the old shoe rocked the fisherman three— Wynken, Blynken and Nod. —Eugene Field.
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LANGUAGE.

GRADE I.

September.

1. Stories: For reproduction, Raggylug; To read or tell, at least one other story not outlined for any other time.
2. Rhymes: Review Kindergarten rhymes; A sunshiny hour; Politeness; I had a little pony.
3. Poem: I love little kitty.
4. Game: To correct, I seen.
5. Pronunciation drill: One, twice, again, December, just, eleven, when, where, while, white, egg, little, yes, seven, are, cradle, get, catch, jump, dose.
6. Definite effort to increase oral vocabulary of pupils. Report progress every month on monthly report.

October.

1. Stories: For reproduction, Half Chick; Read or tell one other.
2. Rhymes: There was a little girl; Dance little baby; Cushy cow.
3. Poem: The cow.
4. Game: Correct, I've got; I ain't got.
5. Pronunciation drill: See September.
6. See September.

November.

1. Stories: For reproduction, Red Riding Hood; Read or tell Pilgrim Story.
2. Rhymes: Georgie-Porgie; Thistle seed; Now the leaves.
3. Poem: A Bustle in the Kitchen. (Or other suitable poem.)
4. Game: Correct, It was him, her, me, etc.; it was not him.
5. Pronunciation drill: See September.
6. See September.

December.

1. Stories: For reproduction, A Christmas Story; Read or tell other suitable ones.
2. Rhymes: There was a man of our town; Old woman, old woman, old woman; Good night.
3. Poem: Santa; Santa Claus came down.
4. Game: Correct, I give him, she give me, etc., where past form I gave, she gave, is needed.
5. Pronunciation: See September.
6. See September.

January.

Review of term's work.

February.

1. Stories: For reproduction, Street Musicians; to read or tell. Why the evergreen trees keep their leaves in winter.
2. Rhymes: The north wind; Two eyes, and only one mouth; Some little mice.
3. Poem: Washington or Lincoln.
4. Game: Correct, I am going by the store.
- 5 & 6. See September.

March.

1. Stories: For reproduction, Straw, Coal, Bean. Read or tell The Pied Piper.
2. Rhymes: If wishes were horses; If all the world; March winds.
3. Poem: The Swing. (R. L. S.)
4. Game: Correct, "I et," for I ate.
- 5 & 6. See September.

April.

1. Stories: For reproduction, Wolf and Seven Kids. Read or tell Ugly Duckling.
2. Rhymes: Tulips in the garden grow; Great A; Cloud, Cloud.
3. Poem: Robin's Song.
4. Game: Correct, Give me them pencils.
- 5 & 6. See September.

May.

1. Stories: For reproduction, Big Brother. Read or tell Branch.
2. Rhymes: Mother often tells me; Little Robin Redbreast sat upon a tree; Simple Simon.
3. Poem: The Dandelion.
4. Game: Correct, He done it.
- 5 & 6. See September.

June.

Review. If there is time during the year teach the other rhymes and poems on the lists—those not outlined here.

GRADE II.

September.

1. Fable for reproduction: The Dog and His Image.
2. Poems: Review Kindergarten and first grade rhymes. New: September Waves; At the Seaside (R. L. S.) Bed in Summer (R. L. S.)
3. Copy, Jack and Jill.
4. Picture: Going to School. Write sentences after oral work.
5. Correct: I see. (Oral and written work.)
6. Story: Read or tell "The Cat and the Parrot". See Sarah Cone Bryant's "How to tell Stories."
7. Pronunciation drill: One, twice, again, December, just, eleven, jump, often, February, body, farmer, new, hungry, ate, very, hurt, when, where, while, white, egg, little, yes, seven, are, cradle, get, catch, jaws, star, barn, pitcher, dose, picture, the egg, the apple, an egg, an apple, the other.
8. Definite effort to increase oral vocabulary of pupils. Report progress every month.

October.

1. Fable: Fox and Crow.
2. Poems: October woods; Whole Duty of Children; Apple pie, pudding; I went to the wood; Thirty white horses.
3. Picture: Digging potatoes.
4. Correct: I've got; I ain't got no.
5. Copy: East or west.
6. Story: "The Fire Bringer." S. C. B.
- 7 & 8. See September.

November.

1. Fable: Fox and Grapes.
2. Poems: Old Mother Twitchett; The loud winds; Rain. (R. L. S.); The Little Elf; I have a little sister; Thanksgiving Song, page 29, Brook's Reader.
3. Picture: Helping mother.
4. Correct: It was him, her, me, etc.
5. Copy: Be good.
6. Story: Pilgrims.
- 7 & 8. See September.

December.

1. Fable: Ant and Grasshopper.
2. Poems: A riddle (my face); The world is such a pleasant place; For every sunny hour; Flour of England; As I was going to Saint Ives.
3. Picture: Showing Baby the Christmas Tree.
4. Correct: I give him (for gave).
5. Copy: First four lines of "A Riddle."
6. Story: The Sailor Man. (S. C. B.)
- 7 & 8. See September.

January.

Review.

February.

1. Fable: Fox and Stork.
2. Poems: The Wind; The Birthday Gift; A Diamond or a Coal;
Black We are; What shoemaker makes shoes; In marble halls.
3. Picture: Mailing a letter.
4. Correct: I am going by my aunt.
5. Copy: This little cow.
6. Story: Washington and Lincoln stories.
- 7 & 8. See September.

March.

1. Fable: Hare and Turtle.
2. Poems: Two legs sat upon; Wake up little snowdrop; Sleep,
baby, sleep; Thomas of Tattamus.
3. Picture: Snowman.
4. Correct: I et, for I ate.
5. Copy: "Who has seen the wind?"
6. Story: Little Daylight. (S. C. B.)
- 7 & 8. See September.

April.

1. Fable: Crow and Pitcher.
2. Poems: I'm a pretty little thing; Happy hearts and faces;
Cock crows in the morning; Black within; Little Nancy Etticoat.
3. Picture: Making Garden.
4. Correct: Give me them pencils.
5. Copy: April, April.
6. Story: The Story of Wylie.
- 7 & 8. See September.

May.

1. The boy and the wolf.
2. Daisies; Be glad; A linnet; As round as an apple; As soft as
silk; How many stars are.
3. Picture: Feeding the Chickens.
4. Correct: He done it.
5. Copy: The Flag.
6. Story: The Rat Princess.
- 7 & 8. See September.

June.

Review.

GRADE III.

September.

1. Do not allow the following mistakes to occur without correction and, if necessary, give special drills: I've got; I ain't got no; I seen; It was him, her, me; I am going by the store; In back of.

2. Correct: I give (for gave) oral and written.

3. Punctuation: Period, interrogation point. Give exercises—written questions and statements.

4. Compositions: a) Beginning and ending of sentences; b) Margin (One-half inch dots on all papers). Paragraph: indentation; a line between subject and body. Write two compositions.

5. Poems: Review Kindergarten, first and second grades; Ariel's Song. Write and memorize, September, Reader, page 46; memorize "The Great Wide World." Read and discuss: September (H. H. Jackson).

6. Pronunciation: Often, once, twice, December, when, why, which, new, compass, February, just, body, eleven, farmer, where, while, white, hungry, cord, ate, every, begged, toward, jump, jumped, very, eggs, terror, hunt, hunters, little, quiet, jaws, heart, yes, star, India, directly, barn, farm, pitcher, picture, seven, knew, village, wheelbarrow, across, kept, something, or, are, cousin, get, catch, recess, carpet, everywhere, candle, cradle, dose, voice, passenger, ladder, thirty, huge, equal, germ, wig, wick, water, wash, visit, visited, stew, poem, news, the other, the apple, the egg, an egg etc.

7. Definite effort to improve—increase—vocabulary of pupils. Report progress every month.

October.

See September.

1. Correct use of let and leave. Oral and written.

2. Teach rules for use of is, are, saw, seen. Oral and written.

3. Punctuation: See September.

4. Composition. Correct form. Write two compositions.

5. Poems: Memorize and write: October, page 47, reader. Memorize: He prayeth best; Days of Birth; Leaves at Play, page 48, reader. Read and discuss, Who Stole the Bird's Nest.

6. See 6 and 7, September.

November.

1. Correct use and rules for use of was, were; review September and October.

2. Punctuation: Comma in a series.

3. Compositions: Two, written. Oral compositions daily.

4. Poems: Write, November, page 47, Reader. Memorize: If all were rain; Thanksgiving Day, page 94, Reader. Read and discuss: Seven Times One. Teach one more, for memory.

5. See 6 and 7, September.

December.

1. Correct use and rules for use of did, done; don't, doesn't.
2. Capitals: Names of days of week, months, titles, Mr., Mrs., Miss, Dr.
3. Compositions: Written, two; oral daily. Review all work, dwell on form, etc.
4. Poems: The man in the moon; Help one another; A little child may have; A Christmas poem. Memorize and write: December, page 100, Reader. Read and discuss: A Dutch Lullaby.
- 5, 6 & 7. September.

January.

Review.

February.

1. Correct use and rules for use of following: Come, came, come; begin, began, begun; see, do, run.
2. Review punctuation, capitals, margin, form of composition, for benefit of Class 2.
3. Compositions: Two written. Daily oral work.
4. Poems: Salute to the Flag; Think of the lonely; Thirty days; Sweet and Low. Read and discuss: The Owl and the Pussy Cat. Memorize and write, January, page 106, Reader.
- 5, 6 & 7. September.

March.

1. Add to list of verbs as you find necessary by noting pupils' errors.
2. Use of there, their, to, too, two, learn, teach.
3. Compositions: Two written. Oral every day. Review punctuation, capitals, margin, form of letter, etc.
4. Contractions: I'm, doesn't, aren't, isn't, don't, weren't.
5. Poems: Memorize and copy: February, page 106, Reader, and March, page 178, Reader. Memorize: Politeness; Come when you called; March (Wordsworth). Read and discuss: The Dove.
- 6, 7 & 8. September.

April.

1. See March.
2. Use of buy, by; ate, eight; blue, blew; our, are.
3. Compositions: Two written. Oral every day. See March.
4. Correct: Between you and I.
5. Poems: Write, April, page 78, Reader. Memorize: Sir Robin, The Right Way, page 80, Reader. Page 238, Reader, boys lower lines, girls upper line. Read and discuss: Robert of Lincoln.
6. See 7 and 8, September.

May.

1. Use of for, far; lend, borrow.
2. Teach words opposite in meaning to: black, hard, hot, cold, slow, sour, broad, careful, cry, early, finish, question, quiet, useful.
3. Names of meats we get from cows, sheep, etc.
4. Compositions: Two written. Oral every day.
5. Poems: Write May, page 178, Reader. Memorize: The Year's at the Spring; The Thristle. Read and discuss: "A Boy's song."
6. See 7 and 8, September.

June.

Review.

GRADE IV.

Potter, Jeschke and Gillet, Oral and Written English, Book I, Part I.

GRADE V.

Potter, Jeschke and Gillet, Oral and Written English, Book I, Part II.

GRADE VI.

Potter, Jeschke and Gillet, Oral and Written English, Book I, Part III.

COMPOSITION AND GRAMMAR.

JUNIOR HIGH SCHOOL.

We shall use Potter Jeschke and Gillet as the regular text. Book II will be used in the regular classes and Book I in the ungraded classes.

It is to be noted that no definite number of pages of the textbook is assigned for a week, a month, or even a semester. It is taken for granted that the teacher and the principal are the best judges as to the rate of work and amount of work each particular class ought to attain and accomplish.

It is wrong to ask any one to talk or write about a subject of which he knows little or nothing. It must be borne in mind, however, that one often knows considerable about a topic that he does not realize he knows until he gets down to outlining and analyzing it. Still it is best not to expect too much from young students. We wish them to have confidence in themselves, and the way to cultivate this very much desired trait is to draw on their acquired knowledge and actual experiences, which, of course, are not yet very extensive.

Have pupils file all of their written work with you so that they and others may see at any time their improvement from month to

month, not only improvement in thought, but also in spelling, penmanship, neatness, etc. Recognizing their own gain is, perhaps, the most powerful incentive to make good.

To do good work in English, spelling, and penmanship, it is absolutely necessary that every teacher in the corps pay strict attention to the oral and written work at all times. This constant interest will soon be appreciated by the children and then they will soon acquire the habit of guarding their speech and of taking pains in writing.

We recommend, that each class be organized into a Students' English Club. Each club in addition to its classwork might occasionally give a program, open to their parents and others, and every week one of the clubs could give two or three numbers at the General Exercises. There are other socializing and school-spirit-building activities in which these clubs could participate in order to help the school and the community. These will readily suggest themselves to the clubs and to the teachers.

MINIMUM WORK IN ARITHMETIC.

GRADE I.

September to February.

1. Count to 10, with and without objects. Back to 1. (Both classes.)
2. Recognition of groups to 5, inclusive. (Both classes.)
3. Numbers before and after 5, 4, 8, 7, etc., to 10. (Both classes.)
4. Adding (with and without objects) by ones to 10; by twos to 8.
5. Measurement: Use of ruler. Draw horizontal and vertical lines 1 foot and 1 inch long on blackboard.
6. Show with squares how many hands you have; fingers; feet a dog has; 2 dogs; wings a hen has; 3 hens, etc. (Group twos and fours.)
7. Days in a week. Their names in order.
8. Written: Figures: 1 to 5, inclusive. Read figures beyond these.

October and March.

1. Count to 20 by ones with and without objects. Back by ones. Both classes.
2. Recognition of groups to 6, inclusive. (6 in three ways.) Both classes.
3. Numbers before and after 5, 4, 8, 11, etc., to 20.
4. Add 2 to numbers to 8, inclusive, and 3 to numbers to 7, inclusive.
5. Teach meaning of subtraction.
6. Measurement: Continue ruler work; lines, terms, square, and oblong.

7. Continue work with squares. (See No. 6, September.)
8. Inches in foot.
9. Written: Figures to 10.

November and April.

1. Review September and October work. Count by twos to 12, and back by twos to 0; by twos to 11, beginning with 1.
2. Continue recognition of groups to 6, inclusive; 10 as two fives; 8 as two fours.
3. Subtract 1 from all numbers to 10; 2 from numbers to 6.
4. $4+4$; $5+5$; $6+6$; $4-1$; $4-2$; $6-3$; $8-4$; $10-5$; $12-6$. (Teach meaning of two 4's; two 3's; two 6's; two 5's; two 1's.)
5. Make squares and oblongs of certain sizes with squares and ruler. Try to image them. Foot, yard, cent, nickel, dime.
6. Teach reading of figures to 20.
7. Written: Copying little problems from board, as: 5×1 , etc.

December and May.

1. Review. Count by twos to 20 threes to 12; fours and fives to 20. Back from 20 by twos to 0; back from 12 by threes to 0. Count by 10's to 100; by twos to 19, beginning with 1. Concrete examples.
2. Add 4 to numbers to 6. Subtract 2 from numbers to 10.
3. Continue "5" of November work.
4. Continue "6" of September work, giving also abstract work, as 2 twos, 3 twos, 4 twos, 5 twos, 3 threes, 5 threes, 4 fives.
5. Halves of even numbers to 12. Also half of 20.
6. Quarts, pints. Triangle.
7. Teach reading of figures to 100.
8. Written: Simple problems in additions and subtraction to copy from board and supply answers.

GRADE II, CLASS II.

September.

1. Count by 1's, 2's, 4's, 5's to 20 and back to 0; 3's and 4's to 12 and back to 0; 10's to 100 and 5's to 100 and back to 0.
2. Teach facts of 7.
3. Add 2 to all numbers to 10.
4. Subtract 2 from all numbers below 12.
5. Multiply by 2 all numbers to 10.
6. Divide by 2 all numbers to 12. (Teach 2 forms: $\frac{1}{2}$ of; 2's in.)
7. Draw horizontal and vertical lines of given length and oblongs. Individual problems to be solved at board.
8. Teach writing of figures from 10 to 20.
9. Signs: plus, minus, equals.
10. Exercises in the use of the ruler as a straight edge, and as a measure. (See suggestions.)

October.

1. Continue "1" of September and count by 2's to 24 and back to 0.
2. Teach all facts of 8.
3. Subtract 3 from all numbers below 12. (Review subtracting 1 and 2.)
4. Add 3 to all numbers to 10.
5. Multiply by 2 all numbers to 10.
6. Multiply by 3 all numbers to 5, inclusive.
7. Divide by 2 all numbers to 16.
8. Divide 3, 6, 9, 12, 15 by 3. (3's in.)
9. Draw lines, oblongs, squares. (See 10, September.)
10. Teach writing of figures from 20 to 30; also 40, 50, 60, 70, 80, 90, 100.
11. Signs: for multiplication, division, dollars, cents.

November.

1. Continue 1 of September and October, and count by 3's to 21 and back to 0.
2. Teach all facts of 9.
3. Add 4 to all numbers to 10; subtract 4 from all numbers below 12; multiply by 4 all numbers to 5, inclusive; divide by 2 all numbers to 20; divide 3, 6, 9, 12, 15, 18 by 3; divide 4, 8, 12, 16, 20 by 4.
4. Image squares and oblongs containing as many as 20 square inches.
5. Write all figures from 1 to 100.

December.

1. Continue 1 of September, October and November, and count by 4's to 24 and back to 0.

2. Teach all facts of 10, 11, 12 not already given.

3.	*9	4	3
	1	7	2
	—	—	—

4. Continue use of rulers, squares and oblongs.

5. Teach how to write 101, 102, etc., to 110.

*Have such problems on board for oral drill, having pupils give sums instantly reading up and down.

January.

Review term's work. ●

GRADE II, CLASS I.

September.

1. Continue 1 of September, October, November and December, and count by 6's to 24 and back to 0.

2. Teach writing of figures from 1 to 100.
3. Add columns of figures of 1 place.
4. Add columns of figures of 2 places, whose digits do not add beyond 9. Read answers for practice.
5. Teach facts of 13 and 14.
6. Concrete problems using facts learned. (Use Hoyt-Peet's First Year in Number.)

October.

1. Continue counting as before and count by 7's to 21 and back to 0.
2. Continue 2, 3, and 4 of September work.
3. Subtraction, giving answers when work is on board thus:

2	9	11
-1	-2	-3
—	—	—
4. Subtract a one place number from a two place one, as:

10	13	14
-9	-9	-8
—	—	—

Concrete problems.
5. Teach facts of 15 and 16.
6. Do not neglect yard, foot, inch problems.
7. Write figures to 200.

November.

1. Continue counting as before and count by 8's to 24 and back to 0.
2. Continue review of September and October work. Use addition and subtraction problems for seat work.
3. Halves with objects: apples, squares, circles, oblongs, etc.
4. Meaning of thirds, fourths, fifths, etc. Use many problems.
5. Facts of 17 and 18.

December.

1. Continue counting as before and count by 9's to 27 and back to 0.
2. Review September, October, and November work.
3. Fourths of numbers; thirds.
4. Pints, quarts, gallons.
5. Facts of 19 and 20.
6. Write figures to 1000.

January.

1. General review of work done.

GRADE III.

Daily work with the book is necessary as the reading of arithmetic is a new and very big problem for third grade children. Begin with the first page and see that the children understand that they are to follow the directions given in the text, answer the questions asked, and do the things they are told to do by the author. When you assign problems to be solved at the board teach the children as early as possible to read and know the problem before leaving their seats, so that they do not need to take their books with them. **READ! READ! READ!** You have seventy minutes for arithmetic. Divide your time in such a way that you vary the work—have drill work, book work, board work daily. The following plan for drill on the tables should be carried out as directed. Work with vim and energy—do not let the drill drag. You should be able to do all of it in a 15 minute period after you get the swing of it. Children of third grade age like drills if they are snappy. Make yours so and you will be rewarded by good results.

DRILL ON TABLES.

First 11 days. 2's. Oral 1 day, written 1 day—alternately.

1. Count to 24 by 2's and back from 24 to 0.
 2. Begin with 1 and count to 25 by 2's and back to 1.
 3. Add 2 to numbers to 10.
 4. Subtract 2 from numbers to 11, as 10-2, 8-2, 5-2, etc.
 5. Add 2 to 0, 10, 20, 30, 40, 50, 60, etc., to 100.
 6. Subtract 2 from 2, 12, 22, 32, 42, 52, 62, etc.
 7. Multiply by 2 numbers to 12, as 2 times 1, 2 times 2, 2 times 3, 2 times 4, etc.
 8. $\frac{1}{2}$ of numbers to 24.
 9. Times 2 to 12 times 2, as 1×2 , 2×2 , 3×2 .
- (See that these drills are not always given in order, that is from 1 in order to 12 times.)
10. 2's in numbers to 24.
 11. Concrete problems involving 2c stamp, pints and quarts, 2's.

Second day. Same as above except numbers 5 and 6 should be:

5. Add 2 to 1, 11, 21, 31, 41, 51, etc.
6. Subtract 2 from 3, 13, 23, 33, 43, 53, 63, etc.

Third day. Same except

5. Add 2 to 2, 12, 22, 32, 42, etc.
6. Subtract 2 from 4, 14, 24, 34, 44, etc.

Fourth day.

5. Add 2 to 3, 13, 23, 33, 43, 53, etc.
6. Subtract 2 from 5, 15, 25, 35, 45, etc.

Fifth day.

5. Add 2 to 4, 14, 24, 34, 44, 54, etc.
6. Subtract 2 from 6, 16, 26, 36, 46, 56, etc.

Sixth day.

5. Add 2 to 5, 15, 25, 35, 45, 55, etc.
6. Subtract 2 from 7, 17, 27, 37, 47, 57, etc.

Seventh day.

5. Add 2 to 6, 16, 26, 36, 46, 56, 66, 76, etc.
6. Subtract 2 from 8, 18, 28, 38, 48, 58, etc.

Eighth day.

5. Add 2 to 7, 17, 27, 37, 47, 57, 67, etc.
6. Subtract 2 from 9, 19, 29, 39, 49, 59, 69, etc.

Ninth day.

5. Add 2 to 8, 18, 28, 38, 48, 58, 68, etc.
6. Subtract 2 from 10, 20, 30, 40, etc.

Tenth day.

5. Add 2 to 9, 19, 29, 39, 49, 59, 69, etc.
6. Subtract 2 from 11, 21, 31, 41, 51, etc.

Eleventh day.

5. Add 2 to all numbers to 100.
6. Subtract 2 from all numbers to 100.

NEXT 11 DAYS TREAT 3's IN SAME WAY, IN NUMBERS 1 AND 2, COUNTING BY 3's TO 36 AND BACK. In all other places substitute a 3 for a 2 and continue work for 11 days, adding, subtracting, multiplying and dividing by 3 and finding $\frac{1}{3}$ of numbers to 36. No. 11. Concrete problem involving 3's, triangles, 3c stamps, cost at \$3, etc.

REVIEW the 2's 2 days, oral 1 day, written 1 day.

REVIEW the 3's two days, written 1 day and oral 1 day.

NEXT 11 DAYS TAKE UP 4's IN SAME WAY. Concrete work involving 4's, dollars, cents, quarts, gallons, etc.

REVIEW 2's 1 day; 3's 2 days; 4's 3 days.

NEXT 11 DAYS TAKE UP 5's. Same procedure.

REVIEW 2's 1 day; 3's 1 day; 4's 2 days; 5's 1 day.

GENERAL REVIEW: 2's, 3's, 4's, 5's.

NEXT 11 DAYS TAKE UP 6's. Same procedure.

REVIEW 2's and 3's 1 day; 4's 1 day; 5's and 6's 1 day.

NEXT 11 DAYS TAKE 7's Same way.

REVIEW 2's and 3's 1 day; 4's and 5's 1 day; 6's 2 days; 7's 2 days.

NEXT 11 DAYS TAKE 8's same way.

REVIEW 4's and 5's 1 day; 6's 1 day; 7's 1 day. General review 1 day.

NEXT 11 DAYS TAKE 9's in same way.

REVIEW 2's, 3's, 4's 1 day; 5's and 6's 1 day; 7's 1 day; 8's 1 day.

NEXT 11 DAYS TAKE 10's same way.

REVIEW 2's, 3's, 4's, 5's 1 day; 6's 1 day; 7's 1 day; 8's 1 day; 9's 1 day; general review 1 day.

NEXT 11 DAYS TAKE 11's same way.

REVIEW 2's, 3's, 4's, 5's and 10's 1 day; 6's 1 day; 7's 1 day; 8's 1 day; 9's 1 day; general review 1 day.

NEXT 11 DAYS TAKE 12's same way.

REVIEW 2's, 3's, 4's, 5's and 10's 1 day; 6's 1 day; 7's 1 day; 8's 1 day; 9's 1 day; 11's 1 day; 12's 1 day.

REVIEW EVERY DAY, beginning with 12's, and working backward.

GIVE SPECIAL TIME TO, OR RATHER, REVIEW THOSE TABLES THAT ARE MOST TROUBLESOME MOST FREQUENTLY.

FOURTH GRADE.

First Half Year.

I. Counting:

- a. Review the multiplication table by counting 5, 10, 15, 20, etc.; 7, 14, 21, 28, etc.

II. Addition and Subtraction:

- a. Test all pupils for accuracy, facility and efficiency.
b. Daily practice in order to obtain rapidity and accuracy.

III. Multiplication:

- a. For advanced work teach tables of 10's, 11's and 12's.
b. Multipliers of three orders.
c. Continue drill on Multiplication in the following form, teacher giving products and pupil giving factors:

4=2×2	18=2×9	36=6×6
6=2×3	3×6	4×9
8=2×4	20=4×5	40=5×8
9=3×3	21=3×7	42=6×7
10=2×5	24=6×4	48=6×8
12=3×4	3×8	49=7×7
2×6	25=5×5	54=6×9
14=2×7	27=3×9	63=7×9
15=3×5	30=6×5	64=8×8
16=4×4	35=7×5	72=8×9
2×8		81=9×9

Note:—This not only makes for skill in multiplication, but aids in estimating the quotient in long division.

d. Use many concrete problems, choosing from measures taught.

IV. Division:

a. Short Division.

1. Problems with remainders.
2. Use dividends of three or four orders.
3. Use problems including dollars and cents.
4. Divisors not to exceed 9.

Steps.

$$(a) \quad \begin{array}{r} 213 \ 1/2 \\ \hline \end{array}$$

$$2)427$$

Note:—This type of example should be mastered before next type is taken.

$$(b) \quad \begin{array}{r} \$293 \\ \hline \end{array}$$

$$2)\$586$$

5. Teach

Concrete divisor) Abstract quotient.

Concrete dividend (Measurement)

Concrete dividend) Concrete quotient.

Abstract divisor (Partition)

V. Measures:

a. Develop and use tables of United States money and liquid measures.

b. Measure perimeters of objects.

c. Give oral concrete problems.

VI. Symbols:

a. Pupils should be able to read and write any numbers to millions.

b. Teach notation to millions.

VII. Problems:

a. Select problems from text book and supplementary lists of problems.

b. Two step problems may now be used in written work.

Note:—Written work should have a time limit to secure rapidity.

VIII. Recreation:

a. Work out games and plays for recreational work. Use the mineograph for duplicate work.

Note:—Short division is the work of this half year.

FOURTH GRADE.

Second Half Year.

I. Addition and Subtraction:

a. No pupil should leave this grade who has not mastered these processes. Mastery means accuracy and rapidity.

b. Use many concrete problems.

II. Multiplication:

a. The children are now ready for drill which should lead to accuracy and rapidity.

b. Use many concrete problems.

III. Division:

a. Review short division.

Note:—Do not begin long division until accuracy and rapidity of short division is satisfactory.

b. Long Division.

1. Use two orders in divisors.

(a) 20, 30, 40, 50, 60, 70, 80, 90.

21, 31, 41, 51, 61, 71, 81, 91.

22, 32, etc.

23, 33, etc.

Note:—Divide this subject into the steps involved and master one step at a time. All problems used, whether in class or as seat work from the board, must be worked by the teacher, in order to make sure that no question is involved which is too difficult for the children.

c. Steps:

1. 3221

20)64420

60

44

40

42

40

20

20

Note:—The greatest multiple of 20 in 64 is 60. Three times 20 is 60, etc.

$$\begin{array}{r}
 2. \quad 316 \\
 \hline
 21 \overline{)6636} \\
 \quad 63 \\
 \quad \hline
 \quad 33 \\
 \quad 21 \\
 \quad \hline
 \quad 126 \\
 \quad 126 \\
 \quad \hline
 \quad
 \end{array}$$

Note 1—(a) Divisor has one or more units.

(b) The greatest multiple of 21 in 66 is 63.

(c) Three times 21 is 63, etc.

(d) Three places in new dividend.

Note 2.—Oral drill in telling the first digit in the quotient should be given. Do not allow the pupil to guess or to feel that it is proper to erase a quotient figure after it has been placed on his paper. Children should determine the quotient at a glance.

$$\begin{array}{r}
 3. \quad 615 \\
 \hline
 24 \overline{)14760} \\
 \quad 144 \\
 \quad \hline
 \quad 36 \\
 \quad 24 \\
 \quad \hline
 \quad 120 \\
 \quad 120 \\
 \quad \hline
 \quad
 \end{array}$$

Note 1.—First three digits considered in the dividend.

Note 2.—The greatest multiple of 2 in 14 allowing for carrying is 12. Think 6 2's are 12. Write 6 in the quotient. Multiply 24 by 6, etc.

$$\begin{array}{r}
 4. \quad 2066 \\
 \hline
 24 \overline{)49584} \\
 \quad 48 \\
 \quad \hline
 \quad 158 \\
 \quad 144 \\
 \quad \hline
 \quad 144 \\
 \quad 144 \\
 \quad \hline
 \quad
 \end{array}$$

Note 1.—Cipher in quotient.

Note 2.—The greatest multiple of 24 in 49 is 48. Two times 24 is 48, etc.

5. 318

26)8268

78

46

26

208

208

Note 1.—The greatest multiple of 2 in 8 allowing for carrying is 6. Think 3 two's are 6. Write 3 in quotient, etc.

Note 2.—Again, pupils must not guess. Teach them to see quickly that 2×4 are 8 and 1 is nine which is too large. Drill orally.

Note 3.—Prove.

d. Give many concrete problems.

IV. Fractions:

a. Equivalent fractions.

$2/4 = 1/2$; $3/6 = 1/2$, etc.

b. Compare values, using terms "larger" and "smaller".

$2/3$ and $3/4$, $1/2$ and $3/4$, $3/4$ and $1/3$, etc.

c. Teach all work objectively. Use lines, foot rules, squares, strips of paper, etc., e. g.

$3/4$ is larger than $2/3$.

Note:—This will give pupils objective understanding of a fraction. In these comparisons take only fractions in daily use, e. g. $1/2$, $1/3$, $2/3$, $1/4$, $3/4$, $1/5$.

V. Symbols:

a. Roman numerals.

1. Teach children that the symbol repeats but three times: I, II, III, or VI, VII, VIII, or XI, XII, XIII, or X, XX, XXX.

2. Any symbol preceding one of greater value subtracts its value. IX, IV, XL, XC.

3. Teach the fundamental symbols—I, V, X, L, C, D, M.

Note:—With these facts the children can now build any number to 1915.

b. Dividend, divisor, quotient. No formal definitions.

VI. Measures:

a. Teach dry and linear measures.

b. Teach units of measure to be found in square measure, e. g. square inch, square foot, square yard. The table is not to be taught formally.

c. Steps of teaching.

1. Square inch as unit of measure.

(a) Cut and use square inch.

(b) First measure square areas, then rectangles.

(c) Form of problems.

In one row there are 5 square inches.

In three rows there are 3×5 square inches or 15 square inches. Avoid such inaccuracies as 3 in. \times 5 in. = 15 sq. in.

(d) Estimate surfaces, then measure.

(e) Problems.

These should be obtained chiefly from the surfaces the children have measured.

2. Square Foot.

(a) Mark a square foot on blackboard or floor.

(b) Measure many objects with unit of a square foot.

(c) Find by measure the number of square inches in a square foot.

(d) Estimate surfaces in square feet.

(e) Problems.

These should all be obtained through measuring, floor, walls, blackboard, doors, etc. Have children find out the cost of painting the walls of their room. Figure cost of tinting the ceiling, etc.

3. Square Yard.

Develop it by the same general steps as in (2) above.

VII. Problems.

Use problems out of the textbook including addition, subtraction, multiplication and division.

GRADE V.

First Half Year.

I. Notation and Numeration:

Children should read and write to millions.

II. Counting:

a. Review 7's, 8's, 9's, 12's.

b. Count by 12 $\frac{1}{2}$ to 100.

c. Count by 20 to 200.

III. Division:

a. Use divisors of three or more orders.

Note.—Drill for rapidity and accuracy.

IV. Factoring:

a. Divisibility by 2, 5, 10.

b. Factors. (See Fourth Grade, First Half Year—III.)

This is a review of multiplication. Factor orally only and work for rapidity.

c. Multiples.

This again is review and should be done orally.

V. Fractions.

a. Concept of fractions reviewed.

1. Fractional part of single objects and groups of objects.

2. Terms.

Note:—Keep all processes within the multiplication table while teaching fractions.

b. Reduction.

1. Integers and mixed numbers to fractions.

(a) Review equivalent fractions, $1=2/2$, $1=3/3$, $2/4=1/2$, $4/6=2/3$.

(b) If $1=2/2$, $2\ 1/2=5/2$, $2=4/2$, etc.

Note 1.—Teach all work objectively.

Note 2.—Each pupil should actually illustrate these principles. It is not sufficient to watch the teacher or some one pupil do the work.

2. Improper fractions to integers or mixed numbers.

3. Fractions to higher or lower numbers.

(a) Comparison of fractions e. g. $8/12=2/3$.

(b) Teach through illustration that when both terms of a fraction are multiplied or divided by the same number the value is not changed.

c. Addition of fractions and mixed numbers.

1. Whole numbers and fractions.

2. Mixed numbers and fractions.

(a) Like denominators.

$2\ 3/4$ plus $1/4=?$

(b) $2\ 3/4$ plus $1/2=?$

$25\ 2/3$ plus $1/4=?$

3. Fractions.

$1/4$ plus $3/4$ plus $2/3$.

Use only those common denominators to be found in the tables and which you have used in finding factors and multiples.

4. Mixed numbers plus mixed numbers.

d. Subtraction of fractions and mixed numbers.

VI. Measures.

a. Review units of measure. See Fourth Grade.

b. Table—Square Measure.

c. Applications.

Area—Plastering, papering, carpeting, painting, etc.

d. Problems in liquid, dry, and linear measure.

VII. Problems.

a. Concrete problems in four fundamental processes. Include problems in fractions, measures, etc.

b. Bills.

1. Use children's problems of earning, purchasing, saving.

2. Make list from grocery store, etc.
3. Problems from text.

FIFTH GRADE.

Second Half Year.

- I. Notation and numeration reviewed.
- II. Counting reviewed.
 - a. Contests.
- III. Integers.
 - a. Four fundamental processes reviewed daily in rapid five-minute drill.
 - b. Apply the standard tests.
- IV. Factoring: Review work of first half year.
- V. Fractions:
 - a. Addition and subtraction reviewed.
 - b. Multiplication of fraction.
 1. A fraction by an integer— $2/5 \times 5$; $2/5 \times 3$, etc.
 2. An integer by a fraction— $7/8$ of 64; $2/3$ of 64, etc.
 3. Multiply a mixed number by an integer— $3 \frac{1}{2} \times 60$; $3 \frac{2}{3} \times 60$, etc.
 4. A fraction by a fraction— $1/2 \times 1/5$; $2/3 \times 1/5$; and $2/3 \times 4/5$.
 5. A mixed number by a mixed number—
 - (a) $4 \frac{2}{5}$ $1/2$ of $4 \frac{2}{5}$ equals $2 \frac{1}{5}$, write $2 \frac{1}{5}$.
 $5 \frac{1}{2}$ $5 \times 2/5$ equals 2, write 2.

 $2 \frac{1}{5}$ 5×4 equals 20, write 20.
 2 Note:—This process makes an excel-
 20 lent review in all steps of multiplication
 of fractions.

 $24 \frac{1}{5}$
 - (b) $6 \frac{2}{5}$
 $5 \frac{2}{3}$

 $2 \frac{2}{15}$

 $4 \frac{4}{15}$
 2
 30

 $36 \frac{4}{15}$
- c. Division of fractions:
 1. Dividing a whole or mixed number by a fraction— $2 \frac{1}{3} \div 3/4$.

2. Dividing a mixed number by a mixed number— $3\frac{2}{5} \div 10\frac{2}{3}$.
3. Dividing a fraction by an integer— $12/36 \div 7$.
4. Dividing a mixed number by an integer— $47\frac{7}{8} \div 7$.
- d. Cancellation:
 1. Review—Dividing both terms of a fraction by the same number does not alter its value.
 2. (a) $4\frac{1}{11} \times 2\frac{4}{9}$.

$$\begin{array}{r} 5 \quad 2 \\ 4\cancel{3} \times 2\cancel{2} \end{array}$$

$$\begin{array}{r} \cancel{11} \quad \cancel{9} \\ \hline \end{array} = 10$$

Leaving a whole number.

$$\begin{array}{r} \cancel{11} \quad \cancel{9} \\ \hline \end{array}$$

Cancelling out a term.

- (b) $3\frac{8}{9} \times 2\frac{1}{10}$ Cancelling only multiples.

$$\begin{array}{r} 7 \quad 7 \\ 3\cancel{3} \times 2\cancel{1} \end{array}$$

$$\begin{array}{r} 49 \\ \hline \end{array}$$

$$\begin{array}{r} \cancel{9} \quad \cancel{10} \quad 6 \\ \hline 3 \quad 2 \end{array} = \text{or } 8\frac{1}{6}$$

$$\begin{array}{r} \cancel{9} \quad \cancel{10} \quad 6 \\ \hline 3 \quad 2 \end{array}$$

Note:—Cancellation is a “short cut” and should be used only after the “b” step is mastered.

VI. Problems:

- a. Concrete problems in all work of this grade. Include the four fundamental processes, square measure, fractions, etc.
- b. Bills.

SIXTH GRADE.

First Half Year.

REVIEW THOROUGHLY THE FUNDAMENTAL OPERATIONS WHICH WERE DEVELOPED IN THE SECOND AND THIRD GRADES, LONG DIVISION WHICH WAS DEVELOPED IN THE FOURTH GRADE, AND THE FUNDAMENTAL OPERATIONS OF COMMON FRACTIONS OF THE FOURTH AND FIFTH GRADES.

Use methods and processes presented in the course of study in previous grades.

Pupils coming to the sixth grade should know the fundamental operations; the tables of linear measure, dry measure, liquid measure, time measure, avoirdupois weight, United States money, addition, subtraction, multiplication and division of common fractions, and simple checks on work.

Owing to the fact that the child's mind, during the first years of his school life, is more receptive than analytic, it is extremely important that the fundamental operations and processes be thoroughly learned and fixed in his mind before he enters this grade. In

this grade the advance arithmetic work should provide more for the analytic mind by giving reasons for operations and processes learned, and by presenting problems that call for reasoning on the part of the child.

I. Counting:

Teach, in addition to previous work, counting by 12 1/2 to 100, 16 2/3 to 100, 25 to 100, 37 1/2 to 150, etc.

II. Fractions:

In all fractional work use the processes which are used in the fourth and fifth grades so as not to confuse the child with different processes. However, do not require pupils who have acquired facility in other processes to change. Before leaving this grade pupils should be able to apply their knowledge of fractions in solving a great variety of concrete problems.

The more complex problems, such as,

$$\frac{6}{7} \quad \frac{3}{4} \text{ of } \frac{5}{8} - \frac{2}{3}$$

$$\text{— or —}$$

$$\frac{3}{4} \quad \frac{2}{5} \text{ of } \frac{3}{8}$$

should not be introduced in this grade. Such problems are not likely to occur in practical use.

III. Decimal Fractions:

Some knowledge of decimal fractions has been obtained in the fourth and fifth grades in addition, subtraction, and multiplication of United States money. The first new process to be introduced in this grade is division of decimals. In this two difficulties present themselves: first, the placing of the decimal point, and second, the understanding of the value of the decimal place. The former can be understood only after long drill, the latter by many concrete illustrations.

a. Relation of simple fractions to decimal fractions.

1. Reduction of decimal to common fractions.

(a) .6 and 6/10 sound the same and have the same value.

(b) .625 or 625

$$\frac{\text{—}}{1000} = \frac{5}{8}$$

2. Reduction of common to decimal fractions.

(a) 5/8 regarded as an indicated division equals 5 ÷ 8. Since we cannot take 1/8 of 5 units exactly, reduce 5 units to lower denomination, and we have 50 tenths or 500 hundredths, or 5000 thousandths, etc.
1/8 of 5000 thousandths equals .625.

Note:—This process may be briefly performed by placing a decimal after the numerator and dividing by the denominator, e. g.

$$\begin{array}{r} .6 \\ \text{—} \\ 3/5 = 5)3.0 \end{array}$$

$$\begin{array}{r} .625 \\ \text{—} \\ 5/8 = 8)5.000 \end{array}$$

b. Teach reading and writing decimal fractions.

1. Pupils should learn the order of the decimal scale and the position of each order with reference to the decimal point.
2. Do not emphasize the decimal orders beyond the sixth. Most of the emphasis should be placed upon the first three orders.
3. To read pure decimals: Read as in whole numbers, then state the name of the decimal order of the figure at the right, e. g. .025 is read, twenty-five thousandths.
4. To read mixed decimals: Read the integral part, then the decimal part, joining the two parts by and e. g. 325.025 is read three hundred twenty-five and twenty-five thousandths.

Note 1:—3500.0005 should be read, three thousand five hundred, and five ten thousandths.

Note 2:—.3505 should be read, three thousand five hundred ten thousands.

Note 3:—.03/5 should be read, three-fifths of a tenth, or three-fifths tenths.

Note 4:—.003/5 should be read, three fifths of a hundredth, or three-fifths hundredths.

Note 5:—3.03/5 should be read, three, and three-fifths of a tenth.

Note 6:—0.3 3/5 should be read, three and three-fifths tenths.

Note 7:—3.3 3/5 should be read, three, and three and three-fifths tenths.

Note 8:—In reading decimals “and” should be used after reading the integral part.

5. Annexing zeros.

(a) .25 is made up of .2 plus .05. Write the figure 3 to the right of .25 and the expression will be .253. .253 is made up of .2 plus .05 plus .003. If 2 had been written instead of 3, .002 would have been added. If 0 had been written no thousands would have been added.

(b) Effect of moving the decimal point to the right or to the left.

Compare the value of 100; 10.0; 1.00; 0.1.

c. Addition and subtraction:

Pupils of this grade were made familiar with these operations by means of problems in United States money in previous grades. Review and extend these operations.

d. Multiplication:

1. Position of decimal point determined by principles of common fractions.

(a) $.5 \times .15 = 5/10 \times 15/100 = 75/1000 = .075$.

(b) $4.27 \times .005 = 427/100 \times 5/1000 = 2135/10000 = .02135$.

2. After a sufficient number of illustration the pupils should be led to formulate a rule for multiplication of decimal fractions.

e. Division:

1. Position of decimal point determined by principles of common fractions.

(a) $.008 \div .04 = 8/1000 \div 4/100 = 2/10 = .2$.

(b) $.0036 \div .00004 = 36/10000 \div 4/100000 = 90$.

2. After a sufficient number of illustration the pupils should be led to formulate a rule for division of decimal fractions.

f. Symbols:

Teach through usage all the common arithmetic terminology as occasions arise.

g. Problems:

1. Give much practice interpreting problems and in giving approximate answers rapidly.
2. Fractional problems conforming to life should be selected from the text book, from the experience of the children, and from the activities of the community.

h. Recreation:

Team work and contests in counting and rapid drills in all the fundamental operations of both common and decimal fractions.

- i. Decimal fractions constitute the work of this grade.

SIXTH GRADE.

Second Half Year.

1. Review.

a. Continue to give daily, rapid five minute drills in the fundamental operations of integers using the processes which were developed in the Second and Third Grades. Consult the course of study for these grades.

b. Likewise give daily, rapid five minute drills in the fundamental operation of common fractions using the processes which were developed in the Fifth Grade. Consult course of study in Fifth Grade.

c. Likewise give short rapid review of decimal fractions using the processes which were developed in the First Half of the Sixth Grade. Consult the course of study for First Half of Sixth Grade.

d. For summary of what may be expected of the pupils on entering this grade see course of study for the First Half of the Sixth Grade.

II. Denominate Numbers:

a. Assemble and learn thoroughly the tables of linear measure, square measure, dry measure, liquid measure, time measure, United States money, and avoirdupois weight.

Note 1:—See that these tables are thoroughly memorized.

Note 2:—In dealing with compound numbers do not use problems of more than two or three denominations.

b. Teach the reduction (descending and ascending) of common denominate numbers and give brief drill in the four operations, using numbers of but two denominations with practical application to school work and home life.

III. Percentage:

a. In percentage the first process should be developed from multiplication of decimal fractions. In this, much oral work should be given. Also objective demonstrations of percentage as applied to lines, surfaces, solids, and quantity generally, as well as to amount of money.

b. Drill upon common business percents and their fractional and decimal equivalents, changing from one form to another until these are well fixed in the memory.

Note:—The following business percents are suggested: 12 $1\frac{1}{2}\%$, 16 $2\frac{1}{3}\%$, 25%, 33 $1\frac{1}{3}\%$, 37 $1\frac{1}{2}\%$, 50%, 66 $2\frac{2}{3}\%$, 75%.

Note 2:—Use much quick oral work.

c. Simple interest with the time restricted to years and months should be taught as the outgrowth of the first process in percentage

IV. Problems:

a. Give much practice in interpreting problems and in rapid approximations of answers.

b. Practical problems conforming to life should be selected from the text book, from the experiences of the children, and from the activities of the community.

c. Abundance of material can be found in simple accounts, including bills, receipted bills, and balances; in simple banking, including the making of deposits and the proper use of check; and in simple phases of local business, as grocery, butcher shop, hardware store, book store, bakery, coal yard, fruit stand, or other activities illustrating such problems as business men must daily meet.

d. In solving such problems as will be furnished from the above source, pupils will appreciate more keenly the value of their ability to use accurately and rapidly the fundamental operations taught in the preceding grades. A personal interest will be aroused in what

otherwise often becomes mechanical and uninteresting, and by means of such material the pupil's knowledge of fundamental operations will be turned to account in dealing with life problems.

Note:—The course in 4th, 5th and 6th grade minimum essentials in arithmetic is taken almost bodily from the Cleveland, Ohio, course, and is based on the finding and recommendations of the Russel Sage Foundation Survey of the Cleveland Schools.

TEXT BOOK WORK IN ARITHMETIC.

Grade III.

Hoyt and Peet Everyday Arithmetic, Book I, Part 1.

Grade IV.

Hoyt and Peet Everyday Arithmetic, Book I, Part 2.

Grade V.

Hoyt and Peet Everyday Arithmetic, Book II, Part 3.

Grade VI.

Hoyt and Peet Everyday Arithmetic, Book II, Part 4.

JUNIOR HIGH SCHOOL.

“The average man needs to know how to add, subtract, multiply, and divide whole numbers. This is the chief thing that he is called upon to do in arithmetic, unless we add thereto the adding and subtracting of decimal fractions as shown in the case of United States money. Next in order will probably come the ability to find a fractional part of a number, say of 16 inches. Next will come, perhaps, the finding of some per cent of a number, say 5% of \$1.25. And next, the citizen will need to know how to multiply and divide a mixed decimal (dollars and cents) by a whole number. Given this equipment, the average person will get along very well so far as more practical calculation is concerned.”

This opinion has been inserted here because it clearly points out the essentials of arithmetic. Since everybody needs to know how to solve correctly these few classes or kinds of problems, it is evident, that it is the duty of the Intermediate School to emphasize these simple operations.

Teach the pupils how to check their results, and then insist on correct answers so that checking will become a need to them, and you will have aided them in acquiring a valuable mathematical habit. See Chapter IV, “How to Teach Arithmetic,” by Brown and Coffman.

The teacher of the Seventh Grade should know just what has been done in arithmetic, in the lower grades, how it has been done, what the results are, and the attitude of mind toward the subject, so far as possible, of the children when they enter her classes. The work previously done is all clearly set forth in the preceding pages. With it every 7th and 8th grade teacher must be familiar.

The 7th and 8th Grade arithmetic is based on Hoyt and Peet Everyday Arithmetic, Book III.

DIVISION OF WORK.

—7B—

Part 5, Chapters 1-4.

1. The Fundamental Processes.
2. The Equation.
3. Percentage.
4. How Business is Done.
 - a. Commercial Discount.
 - b. Other Processes.

—7A—

Part 5, Chapters 5-9.

1. How We Protect Ourselves Against Loss.
2. How Banks Help Us.
3. The Use of Geometric Forms in Measurement.
4. Building a House.
5. Review

—8B—

Part 6, Chapter 1-7.

1. Acquiring Skill in the Fundamental Processes.
2. Common Business Forms.
3. Methods of Sending Money.
4. Saving and Investing Money.
5. Borrowing and Loaning.
6. How to Collect Money.
7. What our Government Does for Us, and How it is Supported.

—8A—

Part 6, Chapters 8-12.

1. Useful Measurements.
2. Powers and Roots.
3. Ratio and Proportion.
4. Review of Grammar School Arithmetic.
5. Review: Civic and Industrial Studies.

SUPPLEMENTARY TEXTS.

1. "Junior High School Mathematics," Books I and II by Wentworth, Smith and Brown.
2. "How to Teach Arithmetic"—Brown and Coffman.
3. "An Elementary Course in Graphic Mathematics" by Auerbach. (Allyn and Bacon.)
4. "Course of Study in Arithmetic"—Cleveland Public Schools.
5. "Standard Tests in Arithmetic"—Courtis.
6. "Essentials of Arithmetic" (latest edition with answers), Wentworth-Smith.
7. "Vocational Algebra"—Wentworth-Smith.
8. "Vocational Algebra"—Cajori and Odell.
9. "Grammar School Algebra"—Milne.

SPELLING.

GRADE I.

Most of the words taught in Grade I are phonetic. All spelling in this grade must be written. If the sounds of the letters are well taught and if the children have learned to analyze a word phonetically there will be very little difficulty in teaching the spelling of the first grade words. Sound blending should be begun the first day of school. The writing proper begins with the simple letters, i, t, u, e, n, the simpler combinations it, ti, in, and so on. As soon as the class has learned to write e, a, and t, in combinations they should learn that they can write cat. New words should be added as rapidly as is consistent with thoroughness, and the sentence should be given as soon as possible. The letter **I** and the word **the** should be taught as wholes early in the work. Work for accuracy in spelling and for legibility in penmanship rather than for a great number of words. Be sure that the children get the forms of letters in right. Words that are not phonetic should be taught as wholes and given during the term whenever the class is ready for them. The names of the letters should be taught toward the end of the year. Sometimes the names of a letter can be given to advantage when teaching a word that is given as a whole, for instance the word **do**. Teach the names **d**, **o**, so that the children always know when they hear those two letters that they spell **do**. Use the spelling list for Grade I. Aim to have a dictated lesson of sentences every day after the class has reached the point where they can write 20 to 30 words.

GRADE II.

Take up the list of words for Grade II, giving as many new words a day as the children can learn well. Of phonetic words they can take five or six a day, probably, but where there is a difficult unphonetic word, one or at the most two a day should be given. The lesson should consist of dictated sentences. New phonetic elements come up in the second grade spelling. See what these are by consulting the lists for first and second grade. All first grade words must be thoroughly reviewed in Grade II, and wherever there is a special difficulty that word should be repeated until it ceases to cause trouble. Be sure that the children can repeat the alphabet in this grade, that they know the order of the letters. Some classes learn a little song about the a b c's. It is a good way to teach the alphabet. Be sure that pupils know how to write the capital letters, beginning sentences with capital letters, and how to end a sentence. Work for accuracy in spelling and legibility in penmanship, good letter forms, well spaced, and words well spaced. The lessons consist of 1. Dictated sentences containing words prepared day before. 2. Correction of lesson. 3. Preparation of new words. There must be opportunity for practice of new lesson given at seat work period.

GRADE III.

Daily lessons of dictated sentences should be given in Grade III. Use the lists as they are given, not necessarily as they come, one after another, but take a whole list, or class of words before proceeding with another list. For instance, if you begin with column one, teach all the words of this column before beginning with any other column, except the list of unphonetic words at the end of the list for the year. These words can be given one or two at a time while the easier phonetic words are given. When teaching column one, review column one in grade I and II, marking for special drill any of these words that are still troublesome. Review grades I and II, column II, when teaching grade III, column II, and so through the lists. The lists and columns refer to the special printed lists for Grades I, II and III. A spelling match may be given once a month. Once a week the dictation sentences should be in the form of a letter. For this reason the necessary words for the heading and close of a letter may be placed on the board and left there until they have become so familiar to the pupils that they need them no longer, when the pupils may be held responsible for their spelling. Such words are Belleville, Illinois, dear, friend, your, truly, very, and so on.

Use the following form and punctuation always:

Belleville, Illinois
September 1, 1919

My dear Mother:

Body of the letter.

Yours truly,

The greeting may be just "Dear Mother" and the close may be whatever you choose, just so only the first word is capital, and that the punctuation is the same.

A spelling lesson in the third grade consists of: 1. Dictated sentences containing words prepared the day before. 2. Preparation of new lesson.

The marking of papers must be done outside of school hours, and the correcting during seat work periods the following day. The dictation lesson is the shortest part of the work. It should take no longer than five minutes, and will take no longer if the order of procedure is mechanized. In the preparation lesson, the entire class, if possible, must be working at the blackboard. They must hear the new word correctly pronounced and see it correctly written by the teacher whose penmanship should always be beyond criticism. If the word has more than one syllable pronounce it by syllables. The meaning of the word must be made clear. It is wisest to have the new word used in a sentence. If you ask for definitions you will get into trouble.

The teacher spells a word orally as she writes it, emphasizing any letter that may cause trouble and pausing in her spelling at the end of syllables. Sound only those words that are phonetic—and

when words are sounded be sure that the sounds are given as they are heard and not the individual letters named. When all these difficulties seem cleared up the pupils write the word on the board, spelling as they write. If the word is a particularly difficult one, as **their** they write it several times, spelling at the same time. If the word is one of a group as **bread**, show them that there are other words having the same short e sound for ea and pronounce head, dead, lead, for them to write under bread without any further preparation. Do not at this stage ask pupils to give other words containing the ea sound or you will receive words like each, beat, leaf, (containing the same letter, but different sounds, as fed, said, shed, (containing the same sound, but different letters).

After all the new words are thoroughly prepared in this way, have pupils write them from memory, and then write sentences containing them. Note every misspelled word children use in these sentences and if the words are not too uncommon use them in the spelling for the next day. Finally have pupils copy the list of new words into their tablets for study. For the next day's lesson then the teacher forms her own sentences, using the new words and also those the children misspell in their sentences, together with similar review words of the first and second grades. These sentences she places on the board before school the next day and gives the class opportunity to study them and practice writing them during a seat work period. Practice work is done in a scratch tablet. The spelling tablet is kept strictly for spelling. In marking spelling lessons do not give the child credit for a correctly spelled word if it is so poorly written that you have to guess as to the spelling. Set up an ideal of legible, neat, correct work and accept nothing less.

GRADE IV.

Based on the Merrill Intermediate Speller. Fourth year work as outlined for each week, together with the supplementary lists.

GRADE V.

Based on the Merrill Intermediate Speller. Fifth year work as outlined for each week, together with the supplementary lists.

GRADE VI.

Based on the Merrill Intermediate Speller. Sixth year work as outlined for each week, together with the supplementary lists.

JUNIOR HIGH SCHOOL.

Based on New World Speller, Book III, World Book Company.

Nothing shows the illiteracy of a person so quickly and certainly as a letter, or any other form of composition, in which there are a number of misspelled words. This being true, it is comparatively easy to create in the minds of the pupils a motive for eliminating

from their written work, every error in spelling. Get this ideal established in the minds of the children and the battle is half won.

We shall use the New World Speller, Book III, in our work. In almost every lesson the authors give valuable aid to the pupils about the most economical way of learning the words. The suggestions to teachers, both in the Preface and in the Teachers' Manual, are invaluable. They should be carefully read and weighed and practiced. Many other and equally helpful hints are given in the introductions of Pierce's Speller, Book II, and Alexander's Spelling Book.

Each teacher is sponsor for the children who assemble in her room at the opening of the school in the morning. The pupils make this room their home room, and keep their books and wraps there. The teacher is their teacher of the first subject they have in the day, and also of spelling and penmanship.

—7B—

New World Speller, Third Book, page 281 to page 306.

—7A—

New World Speller, Third Book, page 307 to page 328.

—8B—

New World Speller, Third Book, page 329 to page 354.

—8A—

New World Speller, Third Book, page 355 to page 376.

Make constant use of the dictionary. Teach the pupils the exact meaning of one of the words that you teach them every day. We have several copies of Smith's Synonyms, and the Public Library has other books that will aid you in this work. Roget's Thesaurus is an invaluable aid. Use it daily. If properly handled, the pupils will soon like this work and will volunteer to take their turns at gathering the information for the class. Strongly advise the pupils to buy a Webster's Secondary School Dictionary. It will be of daily use to them as long as they attend school; not only this one, but also the Township High School. It is also very suitable for the home.

Finally, impress the importance of perfect spelling, good penmanship, and correct English upon the pupils, by refusing to accept written work from any pupil who is not doing work that is worthy of him. This last thought is used advisedly. Not every person can learn to spell words to the standard of which the class is capable. The written work of a child so constituted must be accepted and encouragement given him. The same is true of penmanship. In the case of English, more care must be exercised in order to judge the work rightly. After all, it is not so much the number of errors or the condition of the written work, as it is the attitude of the pupil toward his work. If he has not the right spirit, it will tax the patience and the skill of the teacher to win him over to his own good. But once he

has the right attitude toward his work, the problem becomes one of mutual co-operation for pupil and teacher; and the result, good spelling, will be easily attained.

Twice a term the principal will conduct a test to see how the pupils measure up to the abilities recognized as standards in the Ayres Measuring Scale. It will be well in Grade 7 to make automatic the correct spelling of all words, in the scale up to and including columns L, and in Grade 8 up to and including N.

GEOGRAPHY.

GRADE III.

One of the objects of the work of this grade is to direct the children's attention to their surroundings and lead them by observation and reflection to form those simple concepts or elements which repeated and modified, compose larger geographical ideas, and interpret and give significance to more extended view of the world. The aim of the teacher, therefore, should be to open the children's eyes to their environments. Begin with the school room and premises. Make excursions with the children and illustrate geographical forms by molding them in sand. Seek to develop clear ideas and call upon the child to state them in his own language.

A second object is to acquaint the children with some of the different peoples of the earth, their homes, dress, habits, schools, play, and their relations to us. The people of Eskimo land, Holland, Japan and Arabia will be studied.

I. Position and Direction.

a. Be sure that the pupils know the meaning of right and left. Directions as shown by the position of the sun at different times of the day.

References:—Long's Home Geography, pages 9-14.

b. Observe the direction the smoke blows and the weather vane turns. Let the pupils observe and report the direction of the wind daily, and notice the kind of weather,—warm or cold, clear, cloudy, or rainy—accompanying the several winds.

References:—Long's Home Geography, page 19.

c. Show the direction on a chart or map by use of blackboard. It is best to put the first chart or map on the north wall of the room.

II. The Earth as a Globe.

a. Show pupils a ball or globe and use the names of globe or sphere. Ask the pupils to draw it. They will make a circle. The representation (projection) of a globe is a circle. The large disk seen at night in the sky—the moon—is a globe. The sun is also a globe. The stars, small globes. The earth, a globe, seems flat because we

can see only a small portion of it at one time. Illustrate by a small arc of a large circle. Pupils will be deceived by the appearance and call it a straight line. Show them the error by completing the circle. Illustrate also by showing a small portion of a globe.

b. Surface of a sphere. Surface of a sphere—the outside part which we can see. (Do not teach such definitions as are found in a mathematical geography. Teach the pupils to see, and let them express in their own language the idea formed.) The sky appears like the inside surface of a large hollow sphere. In it the sun, moon, and stars seem to be set. Day, how lighted. Night, how lighted.

References:—Frye's First Steps in Geography, page 15.

III. Surface of the Earth.

Begin with the nearest surroundings and develop the idea that the surface is partly land and partly water.

a. The land is plains, hills, mountains, valley. Parts of a hill—summit, slope, base. Gentle and steep slopes. Gentle slopes good for cultivation, pasture, vineyard, fruit—protected from changes of the wind. Steep slopes not fit for plowing. Why? Good for grazing cattle, sheep, goats, butter and cheese making. View from a hill or mountain top.

References:—Long's Home Geography 1, pages 31-39.

Fairbanks' Home Geography, pages 71-75; 97-107; 226.

Frye's First Steps in Geography, pages 3, 8, 10.

Dodge's Elementary Geography, pages 17-21.

b. Water surface—ponds, lakes, seas, oceans. Moving or flowing water—rills, brooks, creeks, rivers. The rain, where it comes from; where it goes; springs. Boating, boats, sail and steam ships; fishing. Mills turned by flowing water. Filth carried off by water—gutters, sewers.

References:—Long's Home Geography 1, pages 76-79.

Frye's First Steps in Geography, page 11.

Dodge's Elementary Geography, pages 56-58.

IV. Seasons.

a. Spring—snow melts, weather gets warm, plants awake from their sleep, the landscape becomes green, insects and birds re-appear. The months of spring.

b. Summer—hot weather, harvest, vacation. The summer months.

c. Autumn—fall—the weather gets cooler, leaves change color and fall; fruit gathered, insects die, some birds leave for the south; preparation for winter.

d. Winter—cold weather—snow, ice, appearance of the trees; winter sleep of plants; how and where the different animals pass the winter.

(Each season should be taught in its time.)

References:—Long's Home Geography, pages 86, 107, 115.
Fairbank's Home Geography, pages 29-37; 93-95.
Frye's First Steps in Geography, pages 24-25.
Dodge's Elementary Geography, page 71.

V. Productions of This Vicinity.

a. Vegetables—Fruits. (The apple may be taught as a tropical fruit, i. e. the ovary with its intimately connected parts.) Apples, pears, peaches, tomatoes; the grains, (also fruits), nuts, berries.

Vegetables: Potatoes, carrots, lettuce, onions, turnips and others of vicinity.

Wild flowers and weeds.

Common trees and shrubs—shade, fruit, and forest. Fruit and lumber. Evergreen and deciduous trees.

b. Animals—Familiar, wild and domestic animals, their use to us.

Remark:—The plants and animals should be taught in connection with the season to which they are peculiar, and reviewed and classified at this time.

c. Mineral—Coal. Visit a mine and let the children see the shaft and machinery of a coal mine. (To descend into the mine is not advisable.)

References:—Long's Home Geography, pages 87-114.
Fairbank's Home Geography, pages 116-119;
126-159.

VI. The City.

The teacher must be thoroughly familiar with the subject before she attempts to teach it. She must, if possible, make excursions with the children. She must know the history of the city, the form of government, the names of the principal officials and the chief points of interest. The Board of Trade of some cities issues a booklet containing this information. If not, the teacher must supply it. Postals are a great aid to the work. In studying the manufactures it is often possible to make a collection of tiny samples of goods or articles. The main object in the city lesson is not the memorization of the subject matter, but the ability to take journeys through the city thus supplying power of thought, the preparation for the broader work of the county, and state, and last, but most important, the fostering of civic pride. Make booklet of city and industries.

The starting point is usually the school-house.

To what school do you go? On what street is it? On which side of the street? What streets are north, south, east and west of it? If there are not many streets in the town or city, the children may name

them in their order and trace them to the boundary line. Finally, classify all knowledge in conformity with the following outline:

I. Streets.

- a. Names—historically or otherwise obtained.
- b. Description—whether business or residential.
- c. Necessity for clean streets.

II. Bridges.

- a. Kinds.
- b. Streams.

III. Means of transportation.

- a. Railroads.
 1. Names—why built. Effect upon the growth of the city.
 2. With what connect the city?
- b. Trolley lines.
 1. With what towns do they connect?
 2. Similarity between a trolley system and a railroad.
 3. Difference between a trolley system and a railroad.
 - (a) Distance traversed.
 - (b) Carrying capacity.
 - (c) Behavior in trolley.

IV. Public Buildings.

- a. Names.
- b. Location.
- c. Whether belonging to city or federal government.
- d. Use of buildings.
- e. Use of postals.

V. Educational Institutions.

- a. Names.
- b. Location.
- c. Use.
- d. Whether public or private.
- e. Importance of an education.
- f. Care of school property.

VI. Banks.

- a. Names.
- b. Location.
- c. Necessity for saving.

VII. Churches.

- a. Names.
- b. Location.

VIII. Manufactures, other industries.

- a. Kind.
- b. Location.
- c. Effect upon town or city.
- d. Reasons for locating in town.
- e. Effect upon population.

IX. Inhabitants.

- a. Nationality.
- b. History.
- c. Occupations.
- d. Number.
- e. Reasons for settling in town.
(Many are drawn by a manufacturing town.)

X. Government.

- a. Officers.
 1. Names.
 2. Number.
 3. Duties.
 4. Necessity for trustworthy officials.

XI. Surroundings.

If near a river, give its name, amount of traffic.
Mississippi, Bluffs.

XII. Journey through the city.

Show postals and call for the names of places depicted upon upon them, the location, the use. Journey to them. For written work distribute a postal to each child and ask for a written description. Give principal historical features.

Main Topics.

1. The things that belong to us all.
2. What the children can do for the city.
3. Why we have schools and teachers.
4. The policemen and their work.
5. The courts and judges.
6. The mayor, the head servant.
7. Other public servants.
8. Voting or choosing a leader.
9. How the people's money is spent.
10. Good citizens.
11. Dangerous people.
12. Traitors.
13. A good citizens makes a good American.

Pertinent Questions.

In what city or town do you live?

On what street do you live?

On what side of the street?

What is the principal street, and in what direction does it run?

What is the Mayor's name? Where is his office?
On what street is the school?
What way does your front door face?
What kind of a town or city is yours? (Meaning commercial, manufacturing, etc.)
What productions of your city are shipped away?
What things are brought into your city?
What is its principal occupation? Why?
Where is the library? For what is it used?
Why must we be careful with the books?
How open a new book?
Who pays for the paving of the streets?
What is the chief building in the city?
Who pays for the lighting of the streets, the laying of the sewers?
Where does the city get its water supply?
Why must the water be pure?
Who builds the schools and pays for the teachers and books?
Why do we want good hard-working people in a city?
Bring out the idea that the lazy people have to be supported by the industrious and that isn't fair.
Why must children go to school?
What will happen to a people who are not educated?
Why must we have rules in a school-room? Why in the city?
Why is a person who breaks these rules a poor citizen?
What things in the city belong to the people?
Why must the people take care of them?
Why do we want to make our city clean and beautiful?
How can you help?

GRADE IV.

Work by Months.

September-October:—St. Clair County.
November:—Earth as a Whole; Lapps and Finns; Silk.
December:—Rubber, Cattle Ranching, Argentine.
January:—Kangaroo, Wool. Review.
February:—Illinois.
March:—General view of North America.
April:—Down the Mississippi, Sugar. Up the Mississippi, Wheat, Iron.
May:—Trip on the Great Lakes, Lumber, Cotton, Coffee.
June:—Cod fisheries, Fur, Seals, Gold. Review.

DETAILED OUTLINE.

GRADE IV.

The work of the first quarter of Grade IV is to familiarize the child with the geographic facts of his home county and his home city, with considerable emphasis on the development of the industrial and

institutional life of the home city. Keep constantly in mind that the child is the center of all work. Lead him to see that the industrial and social phases of life are largely a product of the physical environment.

St. Clair County.

- I. Location.
 1. Boundaries.
 2. Relation to rest of state.
- II. Surface features.
 1. Relief.
 - a. American Bottoms.
 - b. Bluffs.
 - c. Prairies.
 2. Drainage.
 - a. Richland Creek.
 - b. Silver Creek.
 - c. Kaskaskia River.
- III. Industrial Development.
 1. Farming.
 2. Mining.
 3. Manufacture.
 4. Trade.
 - a. Early method of transportation.
 - b. Railroads.
 - c. Electric Lines.
 - d. Hard roads.
 5. Cities and villages.
- IV. Government.
 1. Early history.
 - a. Indians.
 - b. French.
 2. County seat, Belleville. Study of early history of city and development of industrial and institutional life.

A study of the earth as a whole in this grade is to give the child a clear and definite idea of the earth as the home of peoples having different environments, and hence different occupations and modes of living.

Make a brief introductory study of the earth as a whole with reference to the continents, their names and location; the oceans; the temperature areas. Follow this with study of selected regions to get a variety of surface, climate, and plant and animal life. Whenever possible, apply the effect of geographic controls on the industrial and institutional life of the people studied.

Topics selected for the study of the various regions are outlined below. In connection with the topics for any particular region should come descriptions of other features of that region. The character of

the country, the climate, and the life of the people should receive careful study. Call attention to other regions of the earth to which the characteristics of the region studied can be applied.

In studying a particular region, locate it on a globe and map and point out the actual direction from home. Unless the scene of the story be laid in a definite region, the stories lose their force as geography and become little more than fairy tales. Furthermore, create a spirit or atmosphere of the geographical situation, which is worth more at this stage than any number of geographical facts.

Lessons on these regions should give the child an abundance of information concerning direction and distance on the earth, modes of travel, and the physical, climatic, and human conditions of the regions studied. Center the work about the child's interests and experiences. Emphasize the relation between us and the people of other lands.

Present each of the several topics in the form of a journey lesson.

Coffee—Mexico, Southern North America.

Tea, Rice—Southern Asia.

Rubber—Amazon Valley.

Cattle Ranching—Argentina, Western plains of United States.

Ostrich farming—Southern Africa.

Ivory—Central Africa.

Ship building—Scotland, Holland.

Dates and Figs—Persia.

Cutlery—England.

Lapps and Finns—Northern Eurasia.

Commerce—The Oceans.

Seal and the Eskimo—Alaska.

Silk—Southern France, Italy, China, Japan.

Wool, Kangaroo and other animals—Australia.

Life in the Sahara—Africa.

References to be had at the Public Library:

Eskimo Twins—Perkins.

Children of the Cold—Schwatka.

Little Folks in Many Lands—Chance.

The Wide World—Youth's Companion Series.

When I was a Boy in China—Yan Phon Lee.

Geographical Readers—Carpenter.

Geographical Readers—King-Lee.

The Stories of Other Lands—Johnnot.

Hans, the Eskimo—Scandlin.

Big People and Little People of Other Lands—Shaw.

The Little Journey Series—George.

Boy Travelers in Australia—Knox.

Our American Neighbors—Coe.

Geography Readers—Winslow.

Asia, a Geography Reader—Huntington.

Asia, Geographical and Industrial Study—Allen.
In the Land of Cave and Cliff Dwellers—Schwatka.
Chinese Boy and Girl—Headland.
Manuel in Mexico—McDonald.
Fil and Filippa—Thompson.
Story of Little Metz, the Japanese Boy—Campbell.
China; Peeps at Many Lands—Johnston.
When I was a Boy in China—Lee.
Our Little Cousin Series—Wade.
Japanese Twins—Perkins.
Wonderful City of Tokio—Creedy.
When I was a Boy in Japan—Shioya.
Mexican Twins—Perkins.
Young Folks History of Mexico.
Story of Magellan and the Discovery of the Philippines—Butterworth.
Around the World with Children—Carpenter.
Around the World—Carrol.
Seven Little Sisters—Andrews.
Set of Pictures on "Sahara Life."
Set of Pictures on "Eskimo Life."

In the study of Illinois, make an outline map locating Belleville, Chicago, Springfield, East St. Louis, Cairo, Peoria, Quincy; the Mississippi, Ohio, Wabash, Illinois and Kaskaskia Rivers, and such other localities as provide materials of food, clothes, or shelter for local use.

Illinois.

I. Location.

- a. Heart of North America.
- b. Remote from sea.
- c. Two navigable rivers, on border Lake Michigan.

II. Boundaries.

III. Surface.

- a. Relief flat.
 1. Well adapted to farming.
 2. Not difficult to build railways and roads.
- b. Drainage: Mississippi, Illinois, Ohio, Wabash, Rock, and Kaskaskia Rivers.

IV. Early settlement.

French; Pioneers from Kentucky and Virginia; Germans; Scandinavians.

V. Industrial Development.

- a. Agriculture.
- b. Mineral resources.

- c. Manufacturers.
- d. Commerce—Transportation.
- e. Growth of Cities.
- f. Government.

A general view of North America with its life conditions, its extent, drainage, climate, rainfall, soil, minerals, and animal and vegetable life to be mastered through a number of type studies.

The study of each topic should give a clear understanding of the industry and geographical conditions under which it is carried on in any locality. Extend these ideas to other regions where this industry is important. Drill on a few places associated with the industry.

Make a brief study of location, surface, climate, distribution of prairies and forests, the principal rivers of Great Central Plain, Atlantic Slope, and Pacific Slope. Use relief map and sand model.

Present the study of the following topics in the form of journey lessons:

Coffee growing—Mexico.

Wheat—Red River Valley and elsewhere.

Cotton—Southern United States.

Lumbering—Minnesota.

Fur seal—Alaska.

Sheep and cattle—Ranches of western plains; Canada.

Iron industry of the United States.

Sugar—Louisiana.

Gold—Alaska, California.

Trip down the Mississippi River.

Trip on the Great Lakes.

Cod fisheries.

Trip up Mississippi River.

GRADE V.

Work by Months.

September:—United States as a Whole.

October-November:—Agriculture: Wheat, corn, oats, cotton, sugar cane, sugar beets.

December:—Stock raising, lumbering, mining.

January:—Manufacturing; commerce.

February:—Europe as a Whole.

March:—British Isles.

April:—France; Belgium; Holland; Denmark.

May:—Russia; Norway; Sweden.

June:—Spain; Portugal; Switzerland; Italy; Greece.

DETAILED OUTLINE.

GRADE V.

United States as a Whole.

- I. Position of the United States.
 1. In relation to other countries, North America, oceans, heat belts, winds. How do these conditions affect the country?
- II. Actual and relative size, significance.
- III. Surface.
 1. Highlands.
 2. Plains.
 3. Plateaus.
- IV. Drainage.
 1. Mississippi river system.
 2. Colorado.
 3. Rio Grande.
 4. Great Lakes.
- V. Climate.
 1. Western U. S.
 2. Eastern U. S.
 3. Central U. S.
 4. Southern U. S.
 5. Rainfall.

Effect of location, winds, mountain ranges on climate and rainfall of different regions.
- VI. Industries.
 - a. Agriculture.
 1. Products.
 - (a.) Wheat. Condition necessary for its growth; planting, harvesting, and threshing of wheat; taken to elevators and mills; leading milling and shipping centers; leading wheat regions; important cities in wheat regions; how transported to coast for export; exporting centers on the Atlantic, the Pacific; exported to what countries?

Study corn, oats, rye, barley, and rice the same way.
 - (b.) Cotton. Conditions necessary for growth; cotton growing regions; life of the planation; planting and harvesting of cotton; uses of cotton fibre, cotton seed; markets for raw cotton; export of cotton to north and to Europe; important cities in cotton regions; cotton manufacturing cities in the north; growth of cotton manufacturing in the south.

Study sugar cane, sugar beets, hay, tobacco, potatoes, and garden vegetables the same way.

b. Orchard fruits. Important fruit regions; methods of planting; protecting from frost and insects; harvesting and packing; methods of transportation; canning and drying.

Study small fruits and berries, nuts and semi-tropical fruits the same way.

c. Stock raising. Conditions favorable for raising food animals; regions; raising of cattle for meat; packing centers; transportation of meats throughout the United States and to foreign countries; export cities; hides sent to leather manufacturing cities.

Make a similar study of dairying, hog raising, sheep raising and poultry raising.

d. Lumbering. Value and uses of the forest reserves; forest regions of the United States; characteristics of each; method of lumbering in North and South compared; life in a lumber camp; shipping centers for lumber; centers for furniture manufacture; exporting centers; ship building.

e. Mining. Coal. Uses; formation of coal; kinds, methods of mining; coal regions of the United States; important cities in coal regions.

Follow a similar plan in the study of iron, copper, gold, silver, lead, zinc, petroleum, building stone and clay.

f. Fishing. Herring fishing as typical of salt water fishing; cod, mackerel, lobster, oyster and sponge fisheries; value of our fish catch; location of fishing grounds; methods of fishing in different regions; preparation for market; centers of fish trade.

g. Manufacturing. Rank of United States among manufacturing countries of the world; reasons. Name and locate leading manufacturing centers, and give the character and volume of their output with reasons for same.

h. Commerce. Domestic. Facilities for transportation, great commercial centers.

Foreign. Facilities; coast cities; chief exports; relative importance; chief imports; relative importance.

Europe as a Whole.

I. Why Europe is of special interest to us.

a. Europe, home of ancient peoples; Greeks, Romans, Franks, Saxons, Angles, Britons, etc.

b. Europe, home of our ancestors: English, Scotch, Irish, Germans, French, Scandinavians, Dutch, Spanish, etc.

c. Europeans chiefly of the Caucasian race, our race, the race which has contributed the most toward civilization.

II. Location and size of Europe.

1. Position in relation to other countries. Oceans. Zone.

2. Actual and relative size. Compare with United States in regard to area and population.

III. Surface.

1. Highlands.
2. Lowlands or plains.

IV. Climate.

1. Western Europe.
2. Eastern Europe.
3. Northern Europe.
4. Southern Europe.
5. Rainfall.

(a.) Situation of mountains in relation to winds.

(b.) Source of many rivers among the Alps.

(c.) Dry regions—steppes.

V. Drainage.

1. Rhine River.
2. Danube River.
3. Elbe River.
4. Volga River.
5. Inland Seas.

VI. Coastline.

Irregular—Oceans, gulfs, seas, peninsulas. Islands.

VII. Effect of these physical conditions on agriculture, natural resources, commerce, etc.

VIII. Many Countries.

1. Name and recognize countries.
2. Location.
3. People.

(a.) Language.

(b.) Industry.

(c.) Government.

- b. The British Isles.

I. Location.

In relation to mainland of Europe; bodies of water; heat belt; winds.

II. Area.

Actual and relative size. Significance. Compare with the United States regarding,

(a.) Population.

(b.) Area.

III. Divisions of British Isles.

(a.) Great Britain.

(b.) Ireland.

(c.) Adjacent Islands.

IV. Surface.

(a.) Highland areas.

1. Compare with mountains of mainland of Europe.

(b.) Lowlands.

- (c.) The "downs."
- (d.) Picturesque lakes.
- V. Drainage.
 - a. Principal rivers.
 - b. Canals.
 - c. Lakes.
- VI. Climate and rainfall.
 - a. Influence of westerly winds and Gulf Stream.
 - b. Compare with climate of other countries in similar latitudes.
 - c. Effect of climate on life of region.
- VII. Industries.
 - a. Manufacturing.
 - 1. Factors which have made manufacturing the leading industry.
 - 2. Iron and steel manufacturing centers.
 - 3. Cotton and woolen manufacturing centers.
 - 4. Linen and lace industries.
 - 5. China, porcelain, glass.
 - 6. Leather.
 - 7. Chemical industries.
 - b. Farming and dairying.
 - 1. Regions.
 - 2. Products.
 - c. Stock raising.
 - 1. Conditions favorable for raising food animals.
 - 2. Regions.
 - 3. Raising of horses, cattle, sheep, hogs.
 - d. Mining.
 - 1. Coal and iron.
 - 2. Tin.
 - 3. Salt.
 - 4. Pottery clays.
 - 5. Peat.
 - e. Fishing.
 - 1. Location of fishing grounds.
 - 2. Value of fisheries.
 - 3. Largest fish markets.
 - f. Commerce.
 - 1. Foremost commercial country on globe.
 - 2. Great commercial centers.
 - g. Markets.
 - 1. Colonies.
 - 2. Other countries.
- VIII. The British Empire.
 - 1. Foreign possessions.
 - 2. Government.

Trips.

To southern Ireland.

To Glasgow and the Clyde.

To London—the Commercial Center of the World.

c. France, Italy, Belgium, Germany, Holland, Switzerland, Norway, Austria, Spain, Russia.

France.

I. Location; area—actual, and relative; relief; drainage; climate; people—density of population, reason; rural life; city life; government; foreign possessions.

II. Industries.

a. Agriculture.

1. Wheat, barley, oats, sugar-beets, potatoes.

2. Fruits: grapes, oranges, olives, lemons.

3. Silk culture in France. Conditions necessary to the growth of the white mulberry trees; feeding of the silk-worm; selection of cocoons for breeding; process of destroying the chrysalis; reeling of raw silk; manufacturing of raw silk; when and how introduced, silk manufacturing cities; rank in the production of quality.

b. Stock raising.

c. Dairying.

d. Forestry.

Large areas still wooded. Care of forests.

e. Mining.

f. Manufacturing. Name and location of leading manufacturing centers; products in which France leads.

g. Commerce.

1. Domestic; facilities for transportation.

2. Foreign. Facilities; chief seaports. Imports, exports.

Trips.

1. The Vineyards of France.

2. A Visit to Limoges.

3. The Most Beautiful City in the World.

Use outline given for study of France as model for study of other leading countries of Europe. Make such modifications and additions as are necessary.

GRADE VI.

September:—Asia as a whole.

October:—China; Siberia.

November:—Japan; Indo China.

December:—India, 2 weeks; Australia, 2 weeks.

January:—Australia and review.

February:—Africa as a whole.

March:—Tropical Africa; Egypt; British South Africa; French Possessions.

April:—South America as a whole.

May:—Brazil; Argentina; Uruguay and Paraguay; Guianas and Venezuela.

June:—Tropical Andean Countries; Chile; Review.

DETAILED OUTLINE.

GRADE VI.

I. Position.

1. In relation to other continents; oceans; heat belts.

II. Size.

2. Actual area—significance.

II. Surface.

1. Mountains.
2. Plains.
3. Plateaus.

IV. Drainage.

1. River basins of the north, east, south and south-west.

V. Climate.

1. Winds.
2. Rainfall.

Climatic areas.

VI. Vegetation—result of geographic conditions.

1. Tundra Region.
2. Forest areas.
3. Steppes.
4. Deserts.
5. Jungles.
6. Fertile plains.

VII. Animals—types adapted to climatic areas.

VIII. Minerals—copper, tin, coal, petroleum, salt, etc.

IX. People.

Populations; races; distribution of population as dependent upon possibilities of productive occupation; productive occupations as dependent upon resources, supply and demand and commercial advantages.

Make a study of Siberia, the Highland Region, China, India, and Japan with reference to geographic controls as affecting the social and industrial relations of the people of the various regions studied. In making a study of the various regions, use the outline for study of China given below as a basis. Make such modifications as become necessary to meet needs for the study of the particular region.

China.

Location; area—actual and relative; relief; drainage; climate; conditions affecting climate; products—natural and manufactured; people; race; population; density of population.

Study the following topics through the use of text book, geographical readers, supplementary readers, exhibits from the natural science collection, pictures and such other material as is available.

I. Chinese farms and farmers.

- a. Small farms; intensive cultivation; why necessary.
- b. Products.

II. Rice culture.

- a. Contrast and compare with rice culture in the United States.
- b. Why mostly without aid of machinery.
- c. Markets, wages, standards of living.

III. Tea Culture.

IV. Production of Silk.

V. Fisheries.

VI. Mineral resources. Enormous, but not developed. Why? What changes will take place in China when more of her coal and iron are made use of? Are there any indications of such change?

VII. Means of transportation. Several railroads; two great rivers.

VIII. Methods of work. Laborious ways; reasons; changes.

IX. Customs. Home Life; schools.

X. Effect of long isolation of China.

XI. Changes taking place; future.

Australia.

I. Position.

Direction from equator; from other continents; routes of ships from important places (New York, London, San Francisco, etc.) to cities of Australia (Sidney, Melbourne, etc.).

II. Size.

- a. Compare with United States; with continents; with larger Asiatic countries.
- b. Actual area.

III. Physiography.

- a. Low central plain.
- b. Eastern highlands.
- c. Southwestern highland.
- d. Northern highland.
- e. Shore lines.
- f. "The Great Barrier Reef."
- g. Drainage.

IV. Climate.

- a. Winds; trade winds; westerly winds; monsoons.
- b. Rainfall.
- c. Temperature. Effect on rivers and lakes; on distribution of population.

V. Vegetation.

Distribution of vegetation determined largely by surface features and the climate.

- a. Of plains.
- b. Of highland area.

VI. Minerals.

Gold, silver, coal, tin, copper, iron, precious stones.

VII. Animals.

Reasons for the difference of flora and fauna in this continent.

- a. Merino sheep.
- b. Cattle.
- c. Marsupials.
- d. Platypus.
- e. Cassowary.
- f. Echnyda, etc.
- g. Rabbit as a pest.

VIII. People.

- a. History.
 1. Of natives.
 2. Of white people.
- b. Industries.
 1. Agriculture.
 2. Sheep and cattle industries.
 3. Mining.

IX. Government. English colonial.

X. Topics suggested for special study in connection with study of continent:

Sheep raising in Australia; Mining in Australia; Animals of Australia; Farming in Australia; The Aborigines of Australia; Cities of Australia.

Africa.

In the study of Africa, fix upon some important problems early in the study of the continent, such as distribution of population, kinds of products and their distribution, and note the geographic controls. By referring to these factors constantly, the pupil will acquire the right conception of geography and will recognize the principles which control the life and hence the human activities which prevail. He will be able to infer results and conditions if a few principles are stated. Study first the continent as a whole according to outline be-

low. This is followed by the study of each political division as to peculiarities and the habits and customs of its people.

I. Location.

- a. Direction from other continents.
- b. With reference to the equator.

II. Size.

- a. In comparison with other continents.
- b. In comparison with United States.
- c. Actual area.

III. Coast features.

- a. Islands.
- b. Capes. (Coordinate with history.)

IV. Surface regions.

- a. Narrow coastal plains.
- b. The mountain rim; principal ranges and peaks.
- c. The interior plateau.

V. Drainage.

- a. The great rivers. Why not value for transportation.
- b. The importance of the Nile Valley. The Assuan dam and irrigation.
- c. The Victoria Falls.

VI. Climate.

- a. Winds.
- b. Rainfall—Equatorial rainbelts.
- c. Climatic areas—Deserts, steppes, savannas, forests, fertile plains, oases.

VII. Vegetation—Animals.

- a. Animal and vegetable life as found in each of the above named regions.
- b. "Big game" and "Big game hunters." (African Game Trails—Roosevelt.)
- c. Animal and vegetable products of the various regions.

VIII. People.

1. Races.
 - a. Native blacks; the slave trade; Sir John Hawkins.
 - b. The white race.
2. Occupations—Mining, agriculture, hunting.
3. Government—Absolute monarchy; by foreign powers; republic.

IX. Historical interest; motive for studying Africa.

- a. Early inhabitants of Northern Africa.
- b. Recent settlers of Southern Africa.
- c. When people knew Africa so early, why was its development so late?
- d. What nations have colonies in Africa?
- e. Why have Europeans done the work of colonizing it?
- f. What occupations are developed in the south?

- g. Principal products.
- h. Railroads.
- i. Why do white men not settle in Central Africa?
- j. Principal cities.
- a. Tropical Africa.
 - 1. Lowlands.
 - a. Countries.
 - b. Congo River Basin.
 - c. Plant life.
 - d. Animal life.
 - e. People.
 - f. Products.
 - g. Political control.
 - 2. Highlands.
 - a. Countries.
 - b. Relief as affecting climate and products.
- b. Egypt.
 - 1. Location; size.
 - 2. The Nile.
 - 3. Agriculture.
 - 4. Irrigation.
 - 5. People.
 - 6. Cities.
 - 7. Suez Canal.
 - 8. Historical interest.
- c. British South Africa.
 - 1. Diamond and gold mining.
 - a. Diamond mining.
 - b. Location.
 - c. Methods of mining.
 - d. Marketing.
 - e. How diamond mining camp is managed.
 - f. The city of Kimberly.
 - 2. Gold mining.
 - a. Location—Transvaal.
 - b. Methods of mining.
 - c. The city of Johannesburg.
 - 3. Other resources.
 - a. Farming.
 - b. Stock raising.
 - 4. Cities.
 - 5. The Story of Cecil Rhodes.
 - 6. The Railroad. (Cairo to Cape Town.)
 - 7. Value to Great Britain.
 - a. Producer of raw material.
 - b. Consumer of manufactured products.
 - c. Place for excess population.

d. French Possessions. Includes 45% of land and 25% of population of Africa.

I. The Desert.

a. Location and extent.

b. Types and country.

c. Climatic conditions.

d. Caravans.

1. Products of exchange.

2. Routes.

3. The Camel—Story of the desert may be centered about it.

2. Barbary States.

a. Location.

b. Character of country.

c. Climate.

d. Resources.

e. Commerce.

f. Cities.

g. Political control.

e. The Soudan—Land of the Blacks.

1. Location—extent.

2. Divisions.

3. Character of country.

4. People.

5. Commerce.

6. Products.

7. Trade centers.

8. Value of French.

a. Strengthens hold on Mediterranean.

b. Produces raw material.

c. Consumers manufactured material.

South America.

I. South America as a Whole.

a. Location and size.

1. Lies chiefly south of equator.

2. Direction from other continents.

3. Size—actual and relative.

b. Surface features.

1. Similarity of North America and Africa in shape.

2. Mountains and lowlands. Highest in western and lowest in eastern parts. Compare with North America.

4. Rivers. Compare Amazon with Mississippi and Kongo.

5. Lakes. Titicaca. Highest elevated great lake in the world. Elevation, 12,000 feet approximately.

- c. Climate.
 - 1. Winds. Equatorial Calms; Trades; Horse Latitudes, Westerlies.
 - 2. Rainfall. Winds are key to rainfall. There are two dry regions—that produced by the S.E. Trades in Southern Peru and Northern Chile, and that produced by Westerlies in Southern Argentina.
 - h. Plant life. Rainfall determines plant life largely. Jungles in the North. Grass lands in the pampas, Llanos, selvas. None in desert-like regions.
 - e. Animal life.
 - 1. In the Jungle—monkeys, jaguar, sloth, iguana, serpents (Boa constrictor), anteaters, tapir, insects, butterflies, birds, armadillo, manatee.
 - 2. On plain and mountains—deer, rhea, guanaco, condor, Llama, vicuna, alpaca. (Study the Llama in particular.)
 - f. Inhabitants.
 - 1. Native—Indians.
 - a. The Incas. 1. Their early civilization. They were protected by natural barriers which lead to development; tilled soil by aid of irrigation, cultivating potatoes, corn, cotton, domesticated Llamas and alpaca. Had armies; built roads; had rude postal and express system. Capital Cuzco.
 - b. The Spaniards. Attitude toward natives.
 - c. Recent Immigrants. Chiefly from Germany and Southern Europe. Chiefly to Brazil, Argentina and Chile. Why?
 - g. Government. Past and present.
- II. Brazil. (Name comes from a dyewood.)
- a. Size. Actual and relative.
 - b. Climate. Chiefly tropical.
 - c. Drainage. Discuss the Amazon in particular.
 - d. The tropical forest. Its appearance and its products. Fruits, dyewood, nuts, vanilla, mandioca, yerba mate, rubber. Study the rubber industry. (Carpenter's & Pamphlet.)
 - e. Industries.
 - 1. Agriculture. Products—Coffee (See Carpenter's "How World is Fed") cotton, sugar, tobacco, fruits, corn, cocoa. (Cattle in South.)
 - 2. Mining—Gold, diamonds, coal, iron; latter two not much mined yet.
 - 3. Manufacturing—Cotton and woolen cloth.
 - f. Principal Cities—Rio De Janeiro, Bahia, Santos, San Paulo, Pernambuco.

III. Argentina—(Silver).

- a. Why most progressive country?
(In a temperate climate; varieties of climate; open climate.)
- b. Farming—Products—Sugar cane, tobacco, coffee in warm north. In the more temperate parts grains (chiefly wheat, alfalfa, fruits, grapes).
- c. Ranching (chiefly in southern part). Cattle and sheep.
- d. Lumbering and mining.
Argentina and Plata mean silver, but little is found. Name due to fact natives wore silver ornaments. Few minerals found.
- e. Manufacturing and commerce.
 1. Dairying. Manufacture of wool, flour, sugar, wine, leather, cotton.
 2. Most of raw material sent out.
- f. Cities—Buenos Aires, LaPlata, Rosaria, Cordoba.

IV. Uruguay and Paraguay.

Both countries similar—not well developed, largely on account of poor government.

Farming and cattle raising are the industries. Paraguay is known for yerba mate or Paraguay tea.

V. The Guianas and Venezuela.

- a. The Guianas.
 1. Political control (only part of S. A. held by foreigners).
 2. Products. Rubber, dyewood, sugar cane, bananas, cotton, cocoa, coffee.
 3. Exports—Sugar, molasses, rum. (All made from sugar cane.)
- b. Venezuela—(Meaning “Little Venice”) so named because explorers found village built on piles in Lake Maracaibo.
 1. Includes spur of Andes and Llanos.
 2. Farming—Potatoes, barley, beans on higher elevation. Lower elevation produces bananas, cocoa, sugar cane, coffee.
 3. Coffee is chief export.
 4. Cattle raising on Llanos.
 5. Other products—dyewood, rubber, gold.
 6. Chief city—Caracas. Tell of earthquake which destroyed it in 1812. Similar to San Francisco disaster.

VI. Tropical Andean Countries—Columbia, Ecuador, Peru, Bolivia.

1. Resemblance to one another.
 - a. In surface—All crossed by Andes.
 - b. In variety of climate and products—Tropical (up to

3000 to 4000 feet). Produce—bananas, sugar cane, cocoa. Semi-tropical (up to 6000 or 7000 feet). Produce—tobacco, corn and coffee.

c. In abundance of minerals.

d. In location of chief cities.

Chiefly interior at higher elevations—to be near mines, cooler and more healthful climate; protection from attack.

e. Government—poor, difficult to handle because of illiteracy—ambitious army leaders can easily overthrow government.

2. Columbia—Named after Columbus. Has seacoast on two oceans.

Products—Gold, silver, emeralds, cattle, coffee, sugar cane, tobacco, cocoa. On mountains grains and vegetables and fruits. Bogota the capital. PANAMA—Its connection with history of the canal.

3. Ecuador (from the Spanish Equator).

Products—Wheat, barley, coffee, sugar cane, cocoa. (Tell of cocoa industry here. See Carpenter's), sarsaparilla, rubber, gold (difficulties of mining, lack of transportation).

4. Peru.

a. Climate—great variation.

Mining—Gold, copper, tin, silver—carried on crudely. here.)

c. Agriculture—Corn, wheat, potatoes, sugar cane, cotton, tobacco, cocoa, coffee.

d. Other products—Cattle, sheep, llama, alpaca, coca (from which cocaine is made), Cinchona or Peruvian bark, from which quinine is made.

e. Manufacturing—Sugar, cotton.

f. Chief cities—Lima, Callao, Arequipa.

5. Bolivia—Named after General Boliver, the leader on the revolt against him.

Mining—Gold, copper, tin, silver—carried on crudely. Agricultural products similar to Peru.

LaPaz—Chief city.

VII. Chile—Indian word for snow. Progressive. Why?

1. Surface.

Long narrow, crossed throughout by Andes; coast line regular except in South.

2. Climate—Varies more than in any S. A. country. Difference in rainfall. North arid; central and southern parts have considerable rainfall. Best part is the mid section.

3. Mining—Gold, silver, copper. (Copper leads.)
Nitrate beds of Chile of greater importance—forms one of chief exports. Value of nitrate bed increased because of Panama Canal. Why?
4. Agriculture—Grains, tobacco, fruits, vegetables, cattle, sheep.
5. Manufacturing—Flour, cheese, leather, shoes.
6. Cities—Santiago, Valparaiso.

VIII. Suggest Topics for Intensive Study. (Mentioned in outline.)

1. The Rubber Industry.
2. Coffee.
3. Cocoa.
4. The Incas.
5. Nitrate Beds of Chile.
6. The Llama.
7. The Spanish Conquest.
8. The Cattle Industry.
9. The Amazon.

JUNIOR HIGH SCHOOL.

Based on Brigham and McFarlane's Essentials of
Geography, Book II—A. B. C.

We have to make a living and we wish to enjoy life. These two things can best be secured if we can rightly and quickly interpret the news and the signs of the time, and realize fully our dependence upon nature. It is because geography tells us so much about nature and the struggle of man in getting his living and his amusements from her, that this study is so helpful in interpreting the news and the signs of the time.

The best results can be obtained only when the child realizes that what he is working on is of use to him. The boy will be interested in geography and will work hard to master it when he feels that it helps him daily to understand things. Be sure to bring up daily and to locate on maps the places that are mentioned in the newspapers of the previous day. This habit once formed will amply repay the children for the effort expended. They will thereby easily learn the location of many places in two years, and it will also aid greatly in vitalizing the work.

It becomes necessary to cover the whole field of regional, industrial and political geography in the 7th and 8th grades, since the attempt is made in 4th, 5th and 6th grades to acquaint the children with the general basic geographic facts only, without going into intensive, detailed studies. The teacher of 7th and 8th grade geography, therefore, is free to teach geography without being interfered with by the constantly repeated reminder: "Oh, we had that before." 7th and 8th grade geography is new stuff.

MAJOR PROBLEMS.

—7B—

Mathematical Geography, North America and United States.

- I. Nebular Hypothesis.
 - a. Laplace, Kant, Copernicus, Galileo, Newton.
- II. The Solar system.
 - a. Origin.
 - b. Members of.
 - c. Movements of.
- III. The tides.
 - a. Cause.
 - b. Time of.
 - c. Height of.
 - d. Commercial significance.
- I. What is the relation of the earth to the rest of the heavenly bodies?
- II. Tell all about the three great motions of the earth and their consequences?
- III. What does geology teach us about the earth?
- VI. What has the sun to do with the earth?
- V. Tell the story of the making of the sea, the continents, and the islands. What has all this to do with us here in Belleville?
- VI. Study the soil, the lakes, and streams and then tell why they are of great interest to us.
- VII. What have mountains and deserts to do with mankind?
- VIII. Causes, distribution and results of rainfall.
- IX. Cases, distribution and results of heat and cold.
- X. Man and the plant world.
- XI. Man and the animal world.
- XII. Distribution of men.
 - a. Races of men.
 - b. Nations.
- XIII. Occupations.
- XIV. Religions.
- XV. Governments.

The treatment of these subjects is by no means to be limited to North America or the United States. They are world topics.

—7A—

Finish Study of United States. Then take up South America and Europe.

- I. Of what importance is farming?
- II. Which is the more valuable crop, corn or rice? Sugar or potatoes? Treat each one of the great food products mentioned above or below from the following viewpoints: Historical rise, geographical distribution, and industrial importance.

III. Discuss the meat and wheat supply. Other cereals and the fruits. Dairy products and vegetables. Beverages of all kinds.

IV. Compare sheep and wool with fish and fisheries.

V. What has cotton to do with your being in school today? Treat the subject **historically**—both as to itself and its effect on our country's history—regionally and industrially.

VI. Has tobacco anything to do with your being the child of American citizens? What? Treat this subject in the same comprehensive way that you did cotton, wheat, corn, potatoes.

VIII. Name things built or made out of wood, wholly or in part, which are on the ground or in the house where you reside. Deal with lumber, forests, and conservation of timber in the same broad way that you did cotton above.

—8B—

Finish Europe. Then take up Asia, Africa and Australia.

It is strongly urged that throughout the work in geography and history that pupils and teachers make quick sketches of those places and features that are to be remembered. Do not waste valuable time in making elaborate or artistic maps, charts, graphs, and the like. Not only is the thinking faculty of the child to be constantly called into action—but also the visualizing habit.

Besides taking imaginary trips with the children in which you point out the strange sights and call attention to the noted places, ask them to make a collection of pictures and to clip illustrations from magazines, illustrated weeklies or Sunday papers, from old geographies, or any other material suitable. These with the reading of good books on travel, geographical readers, and the like will interest them and fasten the facts in their minds.

Part I.

Give the origin of each mineral listed below, the regions where found and their extent, the part they have played in the world's advance in civilization, and a full account of their industrial and commercial importance at the present time.

Coal; iron; petroleum; clays and sand used for other purposes than for building products; salt.

What are our relations to trade and commerce?

I. History of.

a. Its beginnings.

1. Exchanges.

a. Personal. (Tell about each and dwell upon the results to mankind.)

b. Intercommunal.

c. Inter-tribal.

b. Its growth and why.

1. Early European, Asiatic and African development.

2. World growth up to the adoption of the constitution of the United States.
 3. Development throughout the world, brought about by the invention and use of machinery, ending with 1865.
 4. The impetus given commerce by the development of great manufacturing plants and the improvement of transportation facilities, especially railroading and shipping, by the invention of telegraph and the telephone.
- c. Present status.
1. Immense amount of commerce now carried on.
 2. Ocean routes and maritime nations.
 3. Railroad lines.
 4. River traffic.
 5. Canals.

Part II.

Name the five states in the United States that have the most people to the square mile. Give the reasons in detail for this fact. Prove that it is perfectly natural that New York City is larger than Chicago, the latter than St. Louis, St. Louis than East St. Louis, the latter than Belleville, and Belleville than Smithton.

—8A—

Finish Asia, Africa and Australia, and Review Mathematical Geography and the Industrial Geography of the United States.

Up to this point our course has been largely built up on commercial, physical, and astronomical geography. From here on we shall emphasize descriptive and political geography.

Major Problems.

Sketch a map of Illinois.

Name and locate one or two of the largest cities in every state.

Determine the chief source of wealth of every state, and discuss the dependence of one state on another.

Bound the United States, and give the history of the fixation of the present north and south lines.

Account for the differences between the Canadians and the Mexicans.

Sketch a map of Canada, and insert thereon its important bays, gulfs, lakes, rivers, mountains, farming areas, and lumber regions. Also insert its five largest cities. Why are we interested in Canada? This question is to be answered in discussing every foreign country.

Draw a map of Mexico and locate on it its seaports—two or three—its mountains, its mining regions, its farming areas, and its timber sections.

Draw a map of South America and sketch in its countries, mountains, its three or four principal rivers, its farming, mining, timber, and herding regions. Name and locate the principal city of each country. What interesting facts can you tell us about its different peoples?

Insert on a map of Europe its countries, its important rivers, its mountain ranges, and locate from one to three or four great cities in each country. Make a study of the people of the different nations—their manners and customs, occupations, ideas of government.

Make a similar study of Asia.

Treat Africa the same as you did Asia.

Reference Books.

1. Addams, C. E., Elementary Commercial Geography.
2. Carpenter's and Chamberlain's Geographical Readers. (See Home Reading List, English course.)
3. Herbertson, A. J. and F. D., Descriptive Geographies: Africa; Asia; Australia and Oceanica; British Empire; Central and South America; Europe; North America.
4. Johnson, W. E., Mathematical Geography.
5. McMurry, C. A., Larger Topics of American Geography.
6. Pratt, M. L., Stories of Illinois.
7. Jackson, E. P., Astronomical Geography.
7. Salisbury, R. D., Elementary Course in Physiography.
9. I. H. C., International Harvester Co. Almanac.
10. Ridgley, Important Topics in Geography, four pamphlets.
11. Redway's Commercial Geography.
12. Rocheleau's "Great American Industries," Minerals, Manufactures.
13. Shinn, C. H., The Great Story of the Mine.
14. Tarr and McMurry, Part II.
15. Wright, C. D., Industrial Evolution of the United States.
16. Flanagan: Little Journey Series (Library of Travel).
17. Dodge: Advanced Geography.
18. The World and Its People.
 1. Our American Neighbors.
 2. Modern Europe.
 3. Life in Asia.
 4. Views in Africa.
 5. South American Republics.
19. King: Northern Europe.

COURSE IN COMMUNITY LIFE, HISTORY. KINDERGARTEN.

October and November:

The food supply in the home in its relation to the school garden, the grocery store, and the farm.

1. Fall garden produce. Relation of the harvest to the spring planting.
2. The grocery store which supplies the home.
3. The farm as it is related to the food supply.
4. Thanksgiving as the culmination of the harvest season.

December:

The preparation for Christmas and its celebration in the home and in the kindergarten.

January, February, March:

The home itself and its use by the family.

The kitchen and dining room in relation to the serving of food, the living room and the bed room and their use by the family.

April, May, June:

The family in its relation to the community.

1. The different kinds of homes and houses.
2. Houses on the streets—convenience on the streets.
Sidewalks.
Street lights.
Mail boxes, etc.
3. Public buildings of use to the community.
Churches.
Schools.
4. Needs of the community supplied by the stores and shops.
5. Ways of getting about in the community.
Street cars.
Trains.
Automobiles.
6. The service of parks and playgrounds to the community.
(See the Course in Community Life, U. of C.)

GRADE I.

Course in Community Life, History, Nature Study.

1. For fall and spring:
The farm. See "Socializing the Child," 89 to 95.
Also "Course in Community Life," U. of Chicago.
2. For December: The Christmas stories, gifts, etc.
3. The family. See "Socializing the Child," 74 to 89.

4. In connection with the family and the farm study.
 - a. Pets: Cow; sheep; robin; fall fruits and vegetables; storing of same; coal; snow; recognize five spring flowers; two common trees; two fall flowers; three common weeds.
5. Parts of body; cleanliness; care of teeth; correct carriage of body; sitting and standing; proper breathing; need of fresh air; exercise; sleep; care of voice.
6. Prevention of flies; why necessary.

GRADE II.

Course in Community Life History.

Use sand table.

1. Primitive man before he had fire. (See "Socializing the Child," pages 104 to 119.) Fall.
2. Indian life. See "Ji Shib;" "Socializing the Child," pages 121 to 131. U. of Chicago Course, pages 408 to 411. Fall and Spring.
3. Eskimo life. See "Socializing the Child," pages 119 to 121. Winter.

Nature Study.

1. September: Sunflower.
2. October: Leaves and buds. Preparation for winter, storing fruits and vegetables. Wheat sowing.
3. November: Chicken. The Seasons.
4. December: Winter. Rabbit.
5. January: Review.
February: Goat.
6. March: Horse. Crocus.
7. April: Pigeon.
8. May: Apple tree. Pea.
9. June: Review.

GRADE III.

Course in Community Life, History.

1. September, October, January, February: Belleville. See outline.
2. November, December: Shepherd life. Outline provided. Also see U. of Chicago Course in Community Life.
3. March, April: Holland. See "Socializing the Child," pages 163-145.
4. May, June: Japan. See "Socializing the Child," pages 163-180.
5. Heroes of History.
October: The discovery of America by Columbus.
December: Joseph.

February: Ulysses.
April: Alexander the Great.
Use sand table extensively.

The Study of Arabia.

The first problem given to the children is: To find what effect an arid region has upon the life of a people.

Let us close our eyes and imagine that the country in which we live has been changed. The trees are gone, the birds are not here, the grass is gone. There is not a single green plant to be seen. Even our homes are gone. But it can not stay this way, for by and by the rains will come. Then what will happen to the bare ground?

Bring out the fact that rain brings vegetation.

Today we are going to take a trip to a country where it rarely rains. Sometimes, in the region wheres we are going, it does not rain in two years. This country is Arabia. How will the country look?

After we leave our ship, we go through a very rough part of the country. Many of the great rocks look like big toad-stools, big at the top and little at the bottom.

What has made them this way?

These are made of wind-worn sandstone.

What does the wind do with the sand made into hills by the wind?

Here among the mountains the weather is very hot. Here it rains too.

What kinds of fruits can the people grow?

We cross this country of great rocks and now, as far as we can see ahead of us, there is nothing but sand. Hills of sand everywhere. We are going into this country. There has been no rain for two years.

How shall we travel across this great desert of sand?

Why not walk?

Bring from the children all the reasons why it would not be wise to travel on foot.

We will do much of our traveling in the evening and early morning; why?

Why could we not ride a horse on this long journey?

Reasons:—

No water for many miles.

Hoofs would sink deep into sand.

Eyes not protected.

Bright light would hurt..

In sandstorm eyes will fill with sand.

What animal could we use?

Show pictures of camel.

Where have you seen a camel?

Why can the camel go so long without food?

Why can it travel so far without water?

Why do not the camel's eyes fill with sand in a sandstorm?

The camel is very tall.

How can we fasten our load on his back?

As we take our long journey, where shall we rest during the hot day?

Why must we have tents?

Where shall we get them?

Provide for response on the part of the child.

On the sand table, let the children tell the story as they go. Cut from paper the camels with the loads on their backs. Model them from clay.

Where shall we get water to drink?

We will travel for many days. What shall we see as we go?

Here is the opportunity to give the child a correct notion of a desert. The desert is not all sand, but here and there one comes upon sharp steep rocks and low hills. Have the children go to the black-board and picture their ideas of the appearance of the desert.

As we cross the desert what animals shall we see?

Why shall we not see many animals?

Show pictures of ostriches.

The ostrich lives in the desert.

Tell what you know about the ostrich.

The ostrich does not sit on her eggs.

How are they hatched?

What do we get from the ostrich?

us. All day as we travelled we have seen something black ahead of us. Now it looks like a bowl of green plants. What is it?

Green grass and trees are here.

Why do we find trees and grass growing here?

What must there be before there can be trees and grass?

What do they call such a place in a desert?

Have children draw an oasis, as it appears to them.

Show pictures of oases.

Why do we see so many tents here?

Picture of date-palm.

What kind of trees do we find in the oasis?

What can we use for food if we stop here?

For what else can the Arab use the date-palm?

Make an oasis in the desert on the sand-table.

Show picture of the Arabs.

How do the Arabs dress?

Why do they not dress as we do?

and wells. The long hot summer very often dries up the water in the springs

What effect will this have upon the oasis?

will the people do? When there is no more water left in the springs and wells what

Have pictures of Arabs and their tents.

These people are living in tents.

Why do they not live in houses? Bring out the fact, that because the supply of water in an oasis is often uncertain, these people must move from place to place. Therefore they must carry their houses with them, for it may be impossible to find material for house-building in the new home.

How does your father earn a living?

Why does not the Arab in the desert do the same thing?

What can the Arab do for a living?

Where there is grass, what kind of occupation is found?

What kind of animals are found in the herds of the Arab?

What can the Arab make of the goats?

Uses are:—Hair for making cloth. Milk for butter and to drink. Meat for food. Skins for making leather.

What does the Arab do with his camels?

Uses are: Milk to drink. Camels for market. Uses them to cross desert. Skins used for making water bags, food bags. Hair for making cloth.

Who makes the cloth in Arabia?

For what is the cloth used?

If we were to live in Arabia what are some of the things we would have that we do not have in America?

What are some of the things we would have to do without?

Why would you rather live in America than in Arabia?

What are the things that people must do without if they live in a dry country?

Study the date-palm as a typical desert tree. Why is it such?

The Home in the Desert.

The sun is setting. Nefa has come out of the tent and is playing in the sand. Nefa is a little Arabian girl. She lives in the desert. The day has been very hot. The sun has shone very brightly. The yellow and white sand has glistened in the sun. Little Nefa has been glad to stay in the tent all day. She was glad to be away from the sun and its heat.

Little Nefa has never lived in a house. Her only home is a tent. This tent is made by sticking poles in the ground. Cloth is stretched around the poles. Nefa's mother wove the cloth for the tent. She wove it from goat's hair. All day Nefa's father watches a flock of goats. He takes the goats where they can find grass and water.

Date-palms grow all about the tent. Nefa loves these trees. Do they not give her food every day? Has not her father made poles for the tent from the trunk of the date-palm?

There is a spring of cool water near the tent. Little Nefa thinks this is a good place for a home.

Today, Nefa's father could find no green grass for the goats and camels. There is very little water in the spring. Tomorrow they must hunt a new home.

It is very beautiful in the desert tonight. The day has been very hot; but the night is cool. The stars are shining. Sometimes the mother tells Nefa wonderful stories about the stars. Tonight she cannot listen. She must go to sleep early. In the morning long before daylight they must be going to a new home.

Soon the family are fast asleep on their mats. They have no beds. A curtain is stretched across the middle of the tent. Nefa and her mother sleep in one part of the tent. Her father and his servants sleep in the other part. Nefa's father has heard where there is plenty of grass. He has heard of a place where there is plenty of water. It will take five days to go to the new home.

For days they will see nothing but piles of sand all about them. Sometimes they will see sharp bare rocks. They must take food and water for the journey.

Early the next morning they roll the tent. Nefa helps to pack the food in bags. They have made these bags of camel skin too. The camels kneel down. Nefa's father and his servants strap the big bags on the camel's back.

It would take us many days to get ready to go to a new home. It takes only an hour for this Arabian family to get ready. Little Nefa is not sad because she is leaving her old home. She has moved many times. She claps her hands. She scarcely can wait for the camel to kneel down. At last they are seated on the camels. They are ready for their long journey.

Normal Instructor, Sept. '12.

The Eskimo.

(What would be the approach to this study?)

- I. The Country.
 - a. Journey to Eskimo Land.
 1. How go?
 2. What take along?
 - a. Kinds of clothing.
 - b. Food.
 3. Length of time to get there.
 - b. Appearance of the Land. Illustrate by sketches on the board and with pictures.
 1. Ice.
 2. Snow.
 3. Glaciers. (How make concrete.)
 4. Scanty vegetation—why?
 - c. Day and Night.

Contrast the country, seasons, climate, and day and night with ours.

II. The People.

a. Personal appearance.

1. Size, complexion, hair.

b. Dress.

Have children determine the kind of clothing needed.

1. Material.

a. How secured? By whom?

b. Preparation of. By whom? (Pantomime.)

2. Two suits—how worn? Often ornamented—how?

3. Parts of clothing.

a. Shirt.

b. Trousers.

c. Hood.

d. Shoes.

e. Mittens.

f. Snow shoes.

4. Needle and thread used.

Construction—Dress Eskimo Doll.

c. Homes.

1. Winter house.

a. Igloo.

1. Material—Snow.

2. Blocks.

a. Size.

b. Shape.

3. Roof.

4. Windows.

Appearance of Country.

SUMMER—Grassy meadows. Icebergs often 500 feet high break. Grass, lichen, trees, sorrel (used for kraut), seaweed, moss. Sun on the ice, snow, rocks, give color.

The icebergs usually break off straight, caused by sun.

Greenland is nine times as long as State of Illinois. Land level, rocks covered with moss, trees and flowers. Trees are so small one can be held in the hand. They are 5 or 6 inches high when fifteen years old.

WINTER—Long nights begin in October and last until February. During this time large amounts of snow fall. All is darkness, snow and cold. The sun appears a very short time at first. Then dark shadows. Each day the shadows are longer until by the last of March there is twelve hours day and twelve hours night. May to August it is always light and their June is like our December.

PEOPLE APPEARANCES—People are called Eskimos. Do not grow to be very large. Their face is a broad oval; flat cheeks, forehead not high, nose very flat, teeth good, but owing to the food they eat are soon worn to the gums; eyes small, black and bright; head

large with coarse black hair, which the women fasten up in a top knot on their crown, but men clip in front and allow to hang loose uncombed behind.

DRESS MATERIAL—Skins of seal, reindeer, bear, dog, fox. The first two are most common. Otters, marten and eider duck also are used. The men and women dress very much alike. The jacket has a hood, which in cold weather is drawn over the head, leaving only the face exposed. The trousers are tight or loose, fastened into the boots. The woman's jacket has a fur-lined hood for carrying a child. The boots of various colored leather reach over the knees. In winter two suits are worn, one with hair inside, one with hair outside. Sometimes they wear skirts of bird skins and stockings of dog or young reindeer skins. If the boots are wet they must be changed or the feet will freeze.

Their clothes are neatly made and fit beautifully. They are sewed with a bone needle and sinew thread.

BABIES' SUITS—For the first few months baby is buried in feathers, with no clothing. The first suit has 2 pieces; a hooded coat, and trousers and boots in one. The fur is on the outside. It reaches from the waist, where the draw string is placed, to the ankles. The boots have fur on the inside and are sewed to the trousers. The hood is put on over the head. Fur around the face keeps the frost out.

HABITS—Long dark winter evenings spent in training their dogs, making weapons and enjoying themselves. They seldom go far from home during winter, only when food is needed. When spring comes they start on long hunting trips.

Wood is scarce. When driftwood is found a stone is placed on it. No one will touch it then.

They used to rub noses as a form of greeting, but not now. They are close observers of the stars. Babies are washed by being licked with their mother's tongue, then placed in a bag of feathers, which is cradle, bed and blankets.

Water is scarce and oil is too valuable to use for melting snow, therefore filthy. Have no will of their own, but have very interesting folk-lore. They are generous, hospitable, cheerful, merry, light-hearted, fond of music, and skilful.

RELIGION—Very superstitious. They believe in demons which rule over riches of the sea. There are some Christians.

HOME—It is dome-shaped, built of stone, chinked with turf which grows over and hides the stones. Stone are very scarce and a house is very valuable. A bank is used for the back wall. The roof is of skins which admit some light. House 12-12 in diameter. An earth shelf around the room is the bed. A curtain is around each bed. If the owner dies the house is deserted. This house is lived

in during the long dark winter. Four to six families live in one house. The air is very foul. Skins are used for doors and windows. The dogs sleep on the roof.

SPRING HOME—It is dome-shaped and built of snow and ice blocks. This is covered with snow pressed firmly into cracks. The door-way is near the floor and a block of ice serves for the door. Above the door is a little round hole for a window. They have no glass, but use the thin inside skin of a seal. A long low passageway leads from the door. One must enter on hands and knees. This house is called an igloo. A narrow platform of ice built around the room is covered with soft, warm skins and used for a bed.

It takes about 30 minutes to built this house, and is used on hunting trips like our tents are by us.

The dogs sleep in the entrance.

SUMMER HOME—The frame is of long bones of a walrus covered with skins. It is cone-shaped. It is used on hunting trips and can be easily folded and carried on a sledge. All homes are near the sea shore.

LAMP—A shallow stone dish. On the center is heaped blubber. Across the front edge is placed dried moss. The moss is the wick and the fat melts and the moss absorbs it. It is lighted by steel and flint. It is the only light and heat in an Eskimo home, and so the need of a lamp is great. Over the lamp is suspended a pot of stone in which the cooking is done.

FOOD—Very scarce; berries, sea weeds, roots. These people have neither chairs nor tables. Meals are never prepared. In cold weather slices of meat are cut off and steeped in water. They bury meat in the snow where it keeps for some time. They are fond of fat. They are enormous eaters. They use little or no salt. They must have fat for warmth.

OCCUPATIONS—Hunting and Fishing. Solely hunters and fishers. Animals, seals, are valuable for (a) oil for lamps, (b) flesh for food, (c) skin for clothing. Reindeer, polar bear, are captured for meat and skins. The walrus is of value for oils, hide and tusks.

DOMESTIC ANIMALS—Dog is the beast of burden for the Eskimo. Belongs to the wolf family and is very wild.

BIRDS—Birds are valuable, for the down is used for comforts and the flesh is eaten.

WEAPONS AND TOOLS—Harpoon is a spear used in killing whales, bird spears, etc. Clever at making tools—many use the bow and arrow.

TRAVEL—Canoe—covered with sealskin stretched on a frame. Sledge—drawn by 4 to 8 dogs—2 runners, made wholly of bone and leather.

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HISTORY.

GRADE IV.

The work is based on:

Viking Tales—Hall.

Story of Greek People—Tappan.

Story of Roman People—Tappan.

September:—Vikings.

October:—Complete Vikings, 2 weeks.

History of Greece—Topics I-II, 2 weeks.

November:—Topics III-IV-V.

December:—Topics VI-VII.

January:—Topics VIII-IX. Review.

February:—History of Romans. Topics I-II.

March:—Topics III-IV.

April:—Topics V-VI. Begin VII.

May:—Complete VII-VIII.

June:—Topic IX. Review.

DETAILED OUTLINE.

The types of peoples studied in the preceding grades are such as are immediately and directly dependent on nature for a livelihood.

For the work in the beginning of grade four we shall study a type of people who obtained the necessities of life largely through their own efforts in planning and laboring in accordance with the laws of nature.

As an introduction to the study of the vikings make a brief study of the country of Norway. Take the children on an imaginary journey to the country and have them get definite ideas of the ruggedness of the country, its mountains, waterfalls, rocky coast and many fiords. The physiographic and climatic controls should be emphasized in relation to their influence on the mode of life of the people.

This includes a study of their ships, weapons, homes and occupations.

The Vikings.

- I. The people.
 - 1. Appearance.
 - 2. Habits.
 - 3. Characteristics.
- II. Homes.
 - 1. Buildings comprising homes.
 - 2. Size.
 - 3. Feast hall.
- III. Occupations.
 - 1. Fishing.
 - 2. Trading.
 - 3. Adventure. Voyage, vessels used. Voyage to America.
- IV. Relics of the Vikings.
 - 1. Articles.
 - 2. Runes.
 - 3. Sagas.
- V. Religion.
 - 1. Gods and Goddesses. Woden, Thor, Freya.
 - 2. Christian religion.
- VI. Skalds.
 - 1. Poets and story tellers.
- VII. Vikings in England.

This is the stuff that appeals to boys but you must put the life into it. Leave it unadorned in ruggedness and you will get a sturdy response.

The remainder of the fourth year is given to the study of the Greeks and the Romans. Get the children to live with the Greeks and the Romans and to absorb some of their spirit as reflected in the lives of their great heroes, their literature, and art. It is not the in

tention to attempt to make a systematic study of the history of Greece and Rome. Only such topics are emphasized as help to develop concrete notions of how these people really lived, or which present the great characters, and incidents of the ancient world which have become a part of the heritage of all mankind.

Study the geographic background of the people studied. Get the geographic conditions and trace the influence of these on the development of the various phases of life.

Use pictures, diagrams, models, maps, sand board, and such other helps as will give zest to the work.

Make comparisons and contrasts with the social and civic life of the child.

An outline is given below consisting of the major topics and their subordinates which will serve as a basis for the stories on the history of Greece. The teacher will proceed to make outlines in a similar manner for the major topics given to serve as a basis for the stories on the history of Rome.

History of Greece.

I. Geographic Background.

Geography of Greece. Location, form, size, relief, climate. Trace significance of these in relation to Greek life.

II. Myths of Ancient Greece.

III. Early Greek Life.

1. House of a prince; treasures; weapons.
2. Food; banquet; bard.
3. Education of the youth.
4. Olympic games; truce; celebration; chariot race; victor's honors; influence of games.
5. Religion; oracles; amphictyonies.
6. Bonds uniting the Greeks.

IV. Rise of the Greeks.

1. Lycurgus.
2. Education of the Spartan youth.
3. Spartan ideals.
4. Solon.
 - a. Decrees.
 - b. Reforms.
 - c. Laws against extravagances.
 - d. Dissatisfaction of the people.
5. Why the Greeks founded colonies.
 - a. Freedom.
 - b. Opportunities.
 - c. Desire for riches and adventure.

V. The Persian Wars.

1. Croesus and the Greek colonies of Asia Minor.

2. Burning of Sardis.
 - a. King Darius.
- VI. a. The First Persian Expedition.
 1. Messengers who asked for "earth and water."
 2. Result of Invasion.
- B. Second Persian Expedition.
 1. Battle of Marathon.
 2. Miltiades.
 3. Result.
- c. Great Persian Invasion.
 1. Herdes and his army.
 2. Leonidas at Thermopylae.
 3. Themistocles at Salamis.
 4. Final defeat of Persians at Plataea.
- VII. The Age of Pericles.
 1. Influence of Pericles.
 2. Public Buildings of the Acropolis.
 3. Sculpture and Paintings.
 4. Prosperity.
 5. Education of the youth. "Athenian oath," page 29 Woodburn and Moran Introduction to American History.
 6. Amusements.
 7. Interest in drama, history, oratory.
 8. Home life. House, dress, food, slaves, manners, customs.
- VIII. Decline of Greece.
 1. Disunion among the Greeks.
 2. Peloponnesian war and results.
 3. Philip of Macedonia.
 4. Demosthenes.
- IX. Alexander the Great.
 1. His youth. Aristotle.
 2. His character.
 3. His exploits.
 4. The breaking up of the empire.
 5. What Greece did for the world.

History of Rome.

- I. Geographical background.
Geography of Italy.
- II. Rome as a kingdom.
Legions of early Rome.
- III. Rome as a republic.
Tarquinius.
Plebeians and Patricians.
- IV. How Rome became ruler of Italy

Wars with her neighbors.

Final success and how they held the conquered territory.

V. Early Roman life.

Simplicity.

Home Life.

Religion.

Education of Roman youth.

Customs.

Romans as builders.

Colonies.

VI. How Rome became mistress of the world.

The struggle with Carthage.

The conquest of the East.

What the Romans learned from the Greeks.

VII. Decline of the Roman republic.

The beginning of the decline.

Efforts at reform and beginnings of civil strife.

The Gracchi; Marius.

The rule of Sulla.

Pompey and Caesar.

What Caesar accomplished.

His death.

VIII. Rome as an empire.

Reign of Augustus.

Life in the Augustian Age.

IX. Empire after Augustus.

Spread of Roman language and law.

Growth of Christianity.

Extent of Empire.

Division of the Empire.

What civilization inherited from the Romans.

GRADE V.

During the first quarter make a review of the work covered in Grade IV.

1. A study of the Egyptians, Hebrews, Phoenicians, Chaldeans, and Persians, and their influence upon civilization.
2. Geographic background for study of the history of Greece.
3. Rise of the Greeks.
4. The Persian Wars.
5. Greek Life at the time of Pericles.
6. Decline of Greece and rise of Macedonia.

Place emphasis on a few great characters—Aristides, Socrates, Pericles, Solon, Demosthenes and Alexander.

History of Rome. DETAILED OUTLINE.

1. Geographic background.
2. Rome as a kingdom.
3. How Rome became ruler of Italy.
4. Early Roman life.
5. How Rome became mistress of the world.
6. Decline of the Roman republic.
7. Rome as an empire.
8. Empire after Augustus.

Place emphasis on a few great characters—Horatius, Cincinnatus, Caesar, Augustus, and Constantine. Dramatize: Live again the life of the various ages. Pay especial attention to habits of conduct, traits of character, and social ethics of the times.

I. Last Days of the Roman Empire.

Growing weakness; invasion of the Empire by barbarian tribes.

II. The Germans.

1. Description and location of the Germanic Tribes.
 - b. How they lived.
 - a. Personal characteristics.
 - c. Their homes; food; clothing; occupations; laws and customs; religion.

III. Invasion of the Roman Empire.

1. The Huns set the Germans in motion.
 - a. The battle of Andronople.
2. Alaric and the Goths.
3. Clovis and the Franks.
4. Invasion of Britain by the Angles and Saxons.

IV. Effect on Roman civilization.

1. The Dark Ages.
2. Spread of Christianity.
 - a. St. Augustine.
 - b. Missionaries.
 - c. Monasteries.
 - d. Cathedrals.
 - e. The work of Charlemagne.

V. King Alfred and England.

1. Alfred the Man.
2. Alfred's Laws.
3. Alfred's learning.
4. What the English speaking people owe to Alfred.

VI. The Danish Invasion.

1. The battle of Wedmore.
2. Ethelred the Unready.
3. Canute.

- VII. The Northman in America.
 - 1. Vikings.
 - 2. Leif the Lucky.
- VIII. The Norman Conquest.
 - 1. The Northmen.
 - a. Their attacks on France.
 - b. Normandy, a great Viking Settlement.
 - c. Rollo.
 - 2. William of Normandy Conquers England.
 - a. The Norman Rule.
 - b. King William's Laws.
 - c. What the Normans did for England.
- IX. English People's Struggles for Liberty.
 - 1. King Richard the Lion-hearted.
 - 2. King John and the Great Charter.
 - 3. Rebellion against Henry the Third.
 - a. Simon de Montfort.
 - b. House of Commons.
 - c. Representative Government.
 - d. Parliament.
- X. Connect English Ideals of Liberty with America.

GRADE VI.

- I. English Life during the Middle Ages.
 - 1. Social Life.
 - a. City an important factor in civilization. Center of education, trade.
 - b. Villages. Unsanitary conditions. Home industries. Gilds, Feudalism.
 - c. The Castle and Knighthood. Amusements of the lords.
 - d. Chivalry. The knight; his education, armor, what he did, regard for women; ideals of a true knight. The tournament.
 - 2. Religious life—Pilgrims and Crusaders.
 - a. Custom of the Christians to visit the Holy Land.
 - b. The conquest of Jerusalem by the Turks; profanation of holy places; treatment of pilgrims.
 - c. Pope Urban and the preaching of the first Crusade.
 - d. Peter the Hermit, and Walter the Penniless.
 - e. The third Crusade.
 - f. The children's Crusade.
 - g. Results of the Crusades.
- Chivalry, Knight-hood, Honor, Glory. How the boys will revel in it all and the girls look on with embarrassing encouragement. The leaders of tomorrow are they who

know of the leaders of the past, those who can grasp social situations and respond with prompt action.

II. The Renaissance.

1. The revival of interest in literature.
2. Invention of printing.
3. Revival of interest in painting and sculpture.
 - a. Michael Angelo.
 - b. Leonardo de Vinci.
 - c. Raphael.

III. The Age of Geographical Discovery.

1. The Northmen.
2. Marco Polo's Travels.
3. Prince Henry the Navigator.
4. Trade with the East.
5. Fall of Constantinople. Results.
6. Dread of the Sea.
7. Explorations by the Portuguese.

IV. Columbus Seeks a New Route to India.

1. Columbus.
 - a. His life.
 - b. His voyage.
 - c. Results.

V. Successors to Columbus.

1. Cabot.
2. Vespucci.
3. Balboa.
4. Magellan.
5. Cartier.

VI. Beginnings of Conquest.

1. Spanish Conquerors and Explorers.
 - a. Cortez.
 - b. De Soto.
 - c. De Leon.
 - d. Coronado.

VII. England as a Rival of Spain.

1. Growth of English power in the Days of Elizabeth.
 - a. Raleigh.
 - b. Hawkins.
 - c. Drake.

VIII. France as a Rival of Spain.

1. Wars in Europe.
2. French settlements in America.
 - a. Huguenots. Coligny.
 - b. Port Royal.
 - c. Fort Caroline.
 - d. De Gourgues.

- IX. Dutch fight against their Ruler, the King of Spain.
1. King Charles.
 2. King Philip II.
 3. William of Orange.
 4. English assist Holland.
 5. The Invincible Armada.
 6. Importance of the Defeat of Spain.
- X. Early attempts of the English to found colonies in America.
1. Gilbert.
 2. Raleigh.

HISTORY.

Based on Woodburn and Moran's Elementary American History and Government—Longmans.

Much of the history found in our textbooks never functions in the lives of our citizens. There are entirely too many unimportant events briefly and disconnectedly outlined. What we need is to emphasize the important events, making them big and rich in content and connected up with American life of today, so that they will function in good citizenship. This is the history that will interest the pupil and consequently remain with him to aid him as voter and citizen to reach the right conclusions on the many questions of politics and government that are constantly confronting him.

The work of the Seventh Grade is to begin with the colonies established in New England, the middle states, and the south. Before taking up the 7B work it will be well to spend two or three lessons on what caused these people to come on this long trip to build their homes in this wilderness.

Use the topic method in this work. Maps, graphs, and pictures are valuable aids in getting clear cut mental pictures.

—7B—

Based on Woodburn and Moran's Elementary American History and Government—Pages 1-144.

—7A—

Based on Woodburn and Moran's Elementary American History and Government—Pages 145-289.

In discussing battles in the wars we have engaged in, it matters little when or where the engagements occurred, or who the generals were, or how many men were engaged. Throw the emphasis on the spirit or state of mind or the cause for which they were fighting, and finally on the effects of the battle on the troops, on the home-people, and on our antagonists. Compare the small force and the wealth we

had in the War of the Revolution and the number of enemy soldiers and their backing with our great resources in men and capital now.

—8B—

Based on Woodburn and Moran's Elementary American History and Government—Pages 290-517.

It is understood, of course, that every one of the important topics is to be treated not only from the historical standpoint, but also from a vital functioning viewpoint in the affairs of the world today. For instance, it matters little who first brought families and goods up or down a river, but it is tremendously important now that raw material, manufactured articles, and people be transported quickly and cheaply for long distances as well as short ones.

Discuss in this broad way:

Commerce, Tariff and Free Trade. Money. Employer and Employee. Unions. Panics. Corporations and Trusts. Wages. Home-life. Health and Sanitation. Pure Food and Price Control. Mining. Agriculture. Factories and Foundries. Again take up inventions and discuss Samuel Slater's cotton spinning machine, Cyrus McCormick's reaper, Elias Howe's sewing machine, Henry Ford's automobile, and the Wright Brother's flying machine.

Monroe Doctrine. The Oregon Country. Settlement of the West. Purchase of Alaska. Immigration. Laying of Atlantic Cable. Secession. Fort Sumpter. Bull Run. Trent Affair. The Blockade. Peninsular Campaign. Robert E. Lee. Forts Henry and Donelson. Shiloh. U. S. Grant. Merimac and Monitor. Antietam. Fredericksburg. Emancipation. Chancellorville. Gettysburg. Vicksburg. Chickamauga. The Wilderness Campaign. Atlanta and Sherman's March to the Sea. End of the War. Assassination of Lincoln. Reconstruction. Constitutional Amendments. Centralization of Government. Discuss the development of machinery and its far-reaching effects. Growth of population. Education. Charities. Postal service. Conservation. Suffrage. Taxation.

List of Books for Use of Pupils.

In addition to the books on the lives of the great Americans suggested throughout the course above, the following will be found useful:

Hart:—"Source Book of American History."

Fisk:—"The American Revolution."

Elson:—"Side Lights on American History."

Tappan:—"Our Country's Story."

Baker:—"Boy's Book of Inventions."

Perry:—"Four American Inventors."

Williams:—"Romance of Modern Locomotion."

Custer:—"Tenting on the Plains."

Abbott:—"Blue Jackets of '98."

Jones:—"Life of Edison."

Wright:—"Stories of American Progress."

Bolton:—"Famous Americans."

Parkman:—"Oregon Trail."

Raymond:—"Peter Cooper."

Drake:—"Making of the Great West."

Mowry:—"American Inventors and Inventions."

Humphrey:—"Woman in American History."

COMMUNITY CIVICS.

Based on Nida's City, State and Nation—Macmillan.

—8A—

The primary aim of this course is to arouse in the pupils of the school an interest in, and a knowledge of, the duties they and all the rest of us owe our city, state and nation. The accomplishment of this high ideal will require genuine patriotic and community-loving spirit on the part of the teacher, and a wise handling of the pupils and the material. If we can get the children to feel that they can be of vital use in the betterment of the community and the welfare of the state and nation, we have struck a responsive chord in them which will greatly aid in our task. Here are a few ways in which they can be of great aid:

By obeying the law in regard to non-molestation of property, by respecting the sacredness of the rights of others, by holding city ordinances inviolable, by keeping clean morally, physically, and spiritually; by enjoying life but avoiding cruelty and over-indulgence, by attending school regularly, by agitating and taking part in all community work that is for its good or that of our country.

The schoolroom work can be greatly enriched and made interesting by class, group, and individual visitation and inquiry at the various city, county, and state offices; such as that of Health, Water, City Engineering, Garbage, Street, Overseer of the Poor, Market and Weighmaster, Superintendent of Highways, County Superintendent of Schools, Public Library, Fire, Police, County Clerk, City Clerk, Treasurers, Mayor, Sheriff, State's Attorney, Recorder of Deeds, Custodian of the St. Clair County Historical Museum, and all of the courts, from the lowest to the highest; also the Board of Supervisors, the different civic clubs, and public-spirited citizens.

The results of these visits and investigations can be further vitalized by organizing the class for the time being into a city council, electric light company, a hospital board, or any other organization to suit the needs of the studies just previously made.

Interest is further aroused by taking up in class daily, for 5 or 10 minutes, the current events pertaining to public welfare, not only

of our own community, but that of the state and of the nation. Other ways of creating an interest will readily come to the teacher's mind.

Do not hurry over the work. This does not mean that the work is to drag along. What cannot be done well is best left undone. Knowledge and interest in civic affairs are the goal, not the mere memorizing or filling of heads with governmental facts—no matter how important the facts are.

Spend twelve weeks in Nida's City, State and Nation, on the City, four on the County and the State Governments, and four on the National Government. A few valuable reference books are: Dunn's "The Community and the Citizen"; Forman's "Essentials in Civil Government" (Illinois Edition); Hill's "Lessons for Junior Citizens"; Dole's "American Citizen"; Dole's "Young Citizen"; Clark's "Government"; Macy's "Our Government"; James and Sanford's "Our Government"; Willoughby's "Rights and Duties of American Citizenship"; Lapps' "Our America."

Maps, charts, pictures, blackboard drawing and graphs, especially the latter, are valuable aids in getting quick, clear-cut mental pictures of valuable points. Make the work as objective as possible. Many a dry and difficult fact may be easily vitalized and made clear by a simple graph, readily constructed by the teacher, the class or a pupil.

Emphasize the topics starred (*). Each subject is to be hitched-up-to present day problems.

The City, a Problem; City Planning *City Health; *The City Water; *Drainage and Sewage; *Disposal of Garbage and Rubbish; Street Cleaning; Housing; *Caring for the Poor; Municipal Markets; Smoke and Noise Abatement; Freight Terminals; *City Transportation; Public Highways; The City Beautiful; Public Recreation; Schools; *The Public Library; Fire Fighting; *Fire Protection; *Taxes; Government; *City Government; New Forms of City Government; Hereditary Types of Local Government; *County Government; State and County Prisons; *Charity Work and Institutions; Commissioners and County Roads.

*State Government; *The Voters; *Elections.

The National Government:

- *1. The Central Government.
- *2. Congress.
3. National Courts.
- *4. The Presidency.
5. The State Department.
6. The Treasury Department.
- *7. The Post Office Department.
- *8. The War Department.
9. Other Cabinet Departments.
- *10. Political Parties.
- *11. Naturalization.

ELEMENTARY GENERAL SCIENCE.

A Statement of Principles.

The course in Elementary General Science should show how careful thought and orderly planning can make the world a fit place to live in. It should show what the fundamental primitive conditions of life have been and how these have been and are being improved by the knowledge of the relationships of matter and energy. It is thus, a fine means of combining History, Nature Study, and the Science of the Manual and Mechanical Arts. Through all must run that regard for symmetry and order which will relieve work of its drudgery through the influence of art.

It opens the way for exacting study, for careful weighing, for deliberate choice and for that inspiration, through such a wise interpretation of life, as will result in the construction of a sane manhood and womanhood.

A Statement of Methods of Teaching.

Elementary Science to be worth the while must be taught experimentally. And this means, with first hand knowledge to the child.

He must ask questions of nature and find his answers in habitat, adaptation and control.

He must ascertain constantly what were the conditions? How were they overcome? But he must never be permitted to overlook the question, what would I have done?

To find out how a thing is done, how it is run is second hand knowledge. To do, to run, to adjust, is first hand knowledge. Science, like art, to be worth anything, must be first hand.

GRADE IV.

September:—Autumn Weeds and Flowers.

October:—Trees, Birds. Give greater part of time to study of trees.

November:—Bees, Ants.

December:—Winter Sky.

January:—Fur Bearers. Review.

February:—Sun, Moon; Water Forms.

March:—Housefly, Mosquito; Trees| Give greater part of time to study of insects.

April:—Spring Weeds and Flowers, Birds. Give greater part of time to study of birds.

May:—Moths, Butterflies; Clouds, Storms, Lightning.

June:—Fishes. Review.

In the study of the various phenomena of nature constituting the child's environment it is the aim to familiarize him with his surroundings and at the same time give him a deeper insight and ap-

preciation as to their significance. Things which heretofore have been accepted by him as matter of fact will have a deeper meaning to him if he discovers some of these facts through his own investigation and study. In the study of the plant life about him he should learn to name the things he sees; their relation to the needs of man; their economic importance that will lead him to practice and control them for the good of mankind.

He should learn how to identify some of the common varieties of trees by one or more of their characteristics—their shape, branching, bark, leaves, fruit. He should know something of their values from the esthetic and economic standpoint; and the necessities of their growth, protection, and control.

Trees:—Forest trees, fruit trees, shade trees.

Among the forest trees to be studied are oaks, —red, white, pin, bur; elm; willow; birch; mulberry; sassafras; persimmon; redbud; maple; dogwood; walnut; hickory; pecan and box elder.

Fruit trees:—Apple, pear, quince, peach, plum, apricot, cherry, damson, green gage.

Shade trees:—Elm, sycamore, maple, Carolina poplar, Lombardy poplar, catalpa, Norway maple, sugar maple.

Study the oak as a type of forest tree; elm as a type of shade tree; and apple as a type of fruit tree.

Compare and contrast varieties of trees studied with reference to their characteristics; the specific uses made of lumber obtained from different kinds of forest trees; predominant features of different varieties of shade trees; and rapidity of growth, hardihood and superiority of different varieties of fruit trees.

Outline for Study of the Elm.

Although the elm grows best in moist places it seems to thrive very well on high land where we see it in parks, and along streets in villages and cities. Its beautiful form and rapid growth make it valuable as a shade tree.

Make a sketch of the tree in its foliage. Note its shape. Sketch again when its branches are naked. Study the blossoms and seeds in spring.

Note where the tree grows; its shape; method of branching; characteristic of bark. How can you tell the elm from other trees in winter? Study the elm leaf; form; edges; size; difference between upper and lower sides; color; surface; is it symmetrical; arrangement of leaves on twig.

Roots:—What kind; do they grow deep into the earth.

Chief use of the elm; shade; lumber.

Wood; its character; is it easy to split; why. Uses; cooperage, wheel hubs, saddlery, furniture.

What is meant by a weed?

In the study of weeds, the aim is to become acquainted with native weeds to be able to identify them, learn about their habitat, growth; method of propagation; use, if any; method of combating.

Make a collection of weeds found in the gardens, fields, and along the roadside and learn the characteristics and be able to identify as many as possible. Among some of the weeds common to this vicinity are milkweed, prickly lettuce, sweet clover, wood sorrel, wild morning-glory, knotweed, purslane, cheeseweed, mullein, tumbling weed, common plantain, bull thistle, cockle burr, burdock, Jimson weed, rag weed, wild hemp, giant ragweed, smartweed, shepherd's purse, nightshade, curly dock. Some of the grasses are foxtail, crab grass, old witch, cheat, squirrel-tail, and barnyard grass.

Make a study of a few weeds as types. Burdock, milkweed, Jimson weed. Habits of growth, leaves, flowers, seeds.

Method of seed distribution. Wind; water; animals; man; self distribution; hooks; wings. Make a seed chart of "stickers."

Flowers.

Learn to recognize common wild and cultivated flowers. Some of the common wild flowers are goldenrod, aster, black-eyed Susan, dandelion, May apple, spring beauty, violet, buttercup, trillium, Ditchmen's breeches, dog-toothed violet, Jack-in-the-Pulpit. Many of the plants listed as weeds may be considered in connection with the study of flowers.

Make a study of the goldenrod as to habitat, growth, flowers, seeds.

Moths and Butterflies.

Distinguishing characteristics between moths and butterflies. Study life history of cabbage butterfly. Damage done by the larvae. Methods of control.

Housefly and Mosquito.

Study the life history of the housefly in relation to disease. Methods of control.

Home Makers. Bees and Ants.

Study life history of the bee. Queens, drones, workers. Value of bee to man.

References:—Source book of Biological Nature Study—Downing.
Hand Book of Nature Study—Comstock.
Nature Study and Life—Hodge.

Fur Bearers.

Study rats and mice, the squirrel, the muskrat. Study them as to general appearance, homes, habits, food, uses.

Harm done by rats, and mice. Preventives; methods employed to eradicate.

Make a study of the squirrel as a type according to the outline below. Study the other fur bearers mentioned in a similar manner, making such modifications as will be necessary.

The Squirrel.

- I. True squirrels.
 - 1. Tree squirrels.
 - a. Red squirrel.
 - b. Gray squirrel.
 - 2. Rock squirrel.
 - a. Chipmunk.
 - 3. Ground squirrels.
- II. Marmots.
 - 1. Woodchuck.
 - 2. Prairie Dogs.
- III. Flying squirrels.
 - Type: Red squirrel
 - a. Appearance.
 - 1. Head.
 - a. Eyes.
 - b. Ears.
 - c. Nose.
 - d. Teeth.
 - e. Whiskers.
 - 2. Body.
 - a. Size.
 - b. Color.
 - c. Covering.
 - d. Legs.
 - e. Paws.
 - f. Tail.
 - 1. Beauty.
 - 2. Uses.
 - g. Grace and activity of body.
 - b. Home.
 - 1. Location.
 - 2. How made.
 - c. Food.
 - 1. Kind.
 - 2. How obtained.
 - 3. Storage.
 - d. Care of young.

e. Harm done for self preservation.

1. Injury to crops.

2. Destruction to bird eggs and young birds.

Compare with squirrels of other species.

References:—United States Department of Agriculture Farmer's Bulletins Nos. 335 and 484.

Handbook of Nature Study—Comstock.

Wild Animals Every Child Should Know.

Dan Beard's Animal Book.

A study of the Stars, the Sun, the Moon, and the Atmospheric Phenomena.

Aims: To give the child some idea of the vastness of the universe.

To acquaint the child with a few of the most important constellations, thereby "making him at home in the starry heavens."

To familiarize the child with mythological stories pertaining to the constellations.

To give the child an idea of the sun and of its importance to the atmosphere.

To give the child an understanding of the cause and the grandeur of some of the atmospheric phenomena, so that it will have no superstitious fears concerning any of them.

To teach these subjects, so, that the child will be glad to be alive and to have a part in this wonderful world and universe of ours.

A Study of the Stars.

In preparation for the study of a certain constellation, place a diagram on the blackboard showing the position of the stars in the constellation and explain how to find them with reference to other stars that the children already know. You will find detailed instructions in Comstock's Handbook of Nature Study.

The Winter Sky.

I. A study of the North Star or Pole-star and of the following constellations associated with the Pole-star.

a. The Big Dipper.

b. The Little Dipper.

c. Cassiopeia's Chair.

d. Cepheus.

e. The Dragon.

f. The ancient myths concerning each of the above.

2. Study Orion in the southern half of the heavens. It is one of the most beautiful constellations. In connection with this study the following:

a. Hyades (Aldebaran.)

b. Pleiades—"The Lost Pleiad."

- c. The Two Dog Stars, Sirius and Procyon.
 - d. Capella and the Heavenly Twins.
 - e. Betelgeuse.
 - f. Rigel.
 - g. The ancient myths concerning each of these.
- Value of the Stars.
- a. To the Ancients.
 - b. To travelers.
 - c. To mariners.
 - d. To astrologers.
 - e. To poets and writers.

Atmospheric Phenomena.

- I. Clouds.
 - 1. How clouds are formed.
 - 2. Various kinds.
 - a. Stratus.
 - b. Cumulus.
 - c. Nimbus.
 - d. Cirrus.
 - 3. Uses of clouds.
 - 4. By observation and records tell which clouds bring rainy, cloudy and fair weather.
- II. Storms.
 - 1. What storms are.
 - 2. How formed.
 - 3. Kinds.
 - a. Thunder storms.
 - b. Electrical storms.
 - c. Cyclones.
 - d. Tornadoes.
 - 4. Signs of a coming storm.
 - 5. Damages caused by storms.
 - 6. Maps and instruments used in foretelling the coming of storms.
 - 7. United States Weather Bureau.
 - a. Weather signals.
 - b. Storm and hurricane signals.
 - 8. The solstice and the equinox.
 - 9. Experiments with the shadow stick.
 - 10. Make a sundial.

The Moon.

- I. Study of the moon.
 - 1. What the moon is.
 - 2. Size in comparison with the earth.
- 2. The various phases of the moon.

1. Have the pupils observe the moon as often as possible for a month, beginning with the full moon.
3. Effect of the moon upon the earth.
 1. The tides.
 2. The ebb and the flow.
4. An imaginary visit to the moon.
 1. What we would find there.

The Sun.

1. A study of the sun.
 1. What the sun is.
 2. Size and weight as compared with the earth.
 3. Eclipse of the sun.
2. The solar system.
 1. Mercury.
 2. Venus.
 3. Earth.
 4. Mars.
 5. Jupiter.
 6. Saturn.
 7. Uranus.
 8. Neptune.
3. A study of comets, shooting stars and meteors.
4. The relation of the sun to the earth.
 1. Light and warmth.
 2. Day and night.
 3. The sun's rays at morning, noon and evening.
 4. The seasons.
 5. Sun's position in the sky during the various seasons.
 6. The barometer.
 7. Make and keep a simple weather record.

Lightning.

1. What lightning is.
2. Kinds.
 - a. Heat lightning.
 - b. Sheet lightning.
 - c. Zigzag lightning.
 - d. Ball lightning.
3. Thunder—how caused.
4. Damage caused by lightning.
5. Lightning rods.
6. The northern and southern lights. The Aurora Borealis and the Aurora Australis.

Water Forms.

1. A study of vapor.
2. Fog, mist, clouds.
3. The changing of vapor into the various water forms.
4. The imaginery trip of a drop of water.
5. Rain.
 - a. What rain is.
 - b. Uses of.
 - c. Rain guage.
6. Sleet.
7. Hail.
8. Ice—ice crystals.
9. Dew. Hoar frost. Frost on window panes.
10. Snow.
 - a. How formed.
 - b. The beauty and uses of snow.
 - c. A study of snow crystals.

References to be had at Public Library.

For the Teacher.

Starland—Ball.

The Stars through an Opera Glass—Serviss.

Astronomy in a Nutshell—Serviss.

Stars and Telescope—Todd.

Other Worlds—Serviss.

Handbook of Nature Study—Comstock.

For the Children.

Earth and Sky—Holden.

Overhead—Nicholas.

Stories of Starland—Proctor.

Birds.

List names of familiar birds. Classify as to the following:

1. Perchers and Song Birds.
2. Climbers.
3. Scratchers.
4. Robbers.
5. Waders.
6. Swimmers.
7. Miscellaneous.
 1. Perchers and Song Birds:—Bluebird, robin, thrush, wren, catbird, swallows, sparrow, bobolink, meadow lark, red bird, oriole, black bird, blue jay, crow.
 2. Climbers:—Woodpecker, sapsucker, flicker or yellow-hammer.
 3. Scratching birds:—Chicken, turkey, quail, peacock, grouse.

4. Robbers:—Hawk, eagle, owl.
5. Waders:—Heron, bittern, crane, stork, sandpiper, coot, snipe, plover.
6. Swimmers:—Swan, goose, duck, pelican, loon, auk, pen-guin, gull.
7. Miscellaneous:—Dove, pigeon, parrot, kingfisher, whip-poorwill.

Type Studies.

a. Sparrow as type of Perchers and Song Birds.

1. Kinds.
 - a. English sparrow.
 - b. Chirping sparrow.
 - c. Song sparrow.
2. General appearance.
 - a. Size.
 - b. Feathers.
 1. Color.
 2. Structure.
 3. Care.
 4. Use of bird.
 - c. Wings and tail.
 1. Shape.
 2. Structure.
 - d. Legs and feet.
 1. Shape.
 2. Structure.
 - e. Head and neck.
 1. Shape.
 2. Eyes and ears.
 3. Beak.
3. Nest.
 - a. Location.
 - b. Structure.
4. Eggs.
 - a. Size.
 - b. Color.
 - c. Broods.
5. Nestlings.
 - a. Size.
 - b. Food.
 - c. Habits taught.
6. Food.
7. Economic importance.
8. Enemies.
9. Protection necessary.
10. Migration.

b. Woodpecker as type of Climber.

c. Quail as type of Scatching Bird.

Use above outline in the study of these two types.

References:—Holtz: Nature Study, Chapters VIII, IX, X.

Herrick: Textbook in General Zoology, Chapter XXII.

Comstock: Handbook of Nature Study.

Downing: Source Book of Biological Nature Study.

Fishes.

Kinds:—Catfish, perch, carp, trout, goldfish, salmon, mackerel, herring, codfish, tuna, sardine, sucker, halibut, redsnapper.

Perch as Type.

I. General form.

II. Structure of fish.

a. Scales.

1. Form.

2. Use.

b. Fins.

1. Location.

2. Form.

3. Tail fin (Caudal).

4. Use of.

c. Gills.

1. Location.

2. Use.

d. Eyes.

e. Mouth.

1. Shape.

2. Tongue.

3. Teeth.

III. Color of fish.

IV. Reproduction and development.

V. Habits and adaptation to environment.

VI. Economic importance.

VII. Distinguishing characteristics between perch and catfish.

a. Body structure.

b. Covering of body.

References:—Herrick: Textbook in General Zoology, Chap. XIX.

Comstock: Handbook of Nature Study.

Holtz: Nature Study, Chap. XII.

ELEMENTARY GENERAL SCIENCE.

GRADE V.

October:—Study in Foods.

October:—Study in Foods.

November:—Shelters.

December:—Weaving.

January:—Brick Making—Pottery.

February:—Paper Making.

March:—Fire and its uses. Fuels and their uses.

April:—Iron—Lead.

May:—Copper—Gold.

June:—Silver. Review.

How the world has been fed, clothed, and sheltered, and made reasonably comfortable by careful adjustment.

In the study of the various topics relating to the production of food, shelter, and clothing, trace the evolution of the processes connected with the production. Emphasize the “why” and “how” and advantages derived and effect on the progress of civilization.

GARDENING.

The History of Cultivation.

How did the cave man and Indian get his food supply from plant life? What did he find he must do in order to have a sufficient food supply at all times? Primitive method of cultivation. Improvement of plants through cultivation, cross fertilization, budding and grafting.

Requirements for successful gardening according to present day methods.

Soil suited for gardens; location of gardens near markets; cultivation; variety of things raised; disposal of products.

Preparation of food for use; preservation of perishable food for future use.

A Study of Foods.

A History of Hunting, Fishing and Farming.

Plants and animals as sources of food supply.

A study of development of farming industry; cultivation; harvesting; and disposal of crops.

A study of live stock industry. Raising and marketing of live stock. Packing houses; products. How meats are preserved.

A study of poultry as a source of food supply. How eggs are preserved.

A study of fish and oysters as a source of food supply. How preserved for market?

Weaving.

Idea of weaving was gotten from birds, spiders, and caterpillars, and was first adapted to the interweaving of branches to cover the floors of damp caves.

1. Basketry. Basketry and matting are more beautiful among uncivilized people. Indians wove thoughts, hopes and prayers into their baskets. Their patterns are still used in much of present day weaving.

2. Clothing. Skins of animals, feathers, paint, bast cloth, felt, woven cloth.

3. Looms. Hand looms; foot looms; power looms.

4. Fibers used in weaving. Vegetable, animal, mineral.

5. Weaving of cotton, silk, wool.

6. Importance of industry; its value to mankind.

See:—How the World is Clothed.

Charts on Cotton, Silk, Wool, of Natural Science Collection.
Information Readers No. 2.

Makers of Many Things.

Pottery Making.

Original meaning is coiled cooking basket. The first form was in baskets lined and covered with clay to preserve them in cooking. Then the clay was shaped without the basket. The oldest pots were coiled because baskets were coiled. Coiled pottery is still made by students of art, but most useful vessels are made either on potter's wheel or cast in molds.

History of Pottery.

The earliest potters, Egyptians, Chaldeans, the Indians; a modern pottery.

1. Primitive. Origin; preparation; method of making; by hand, tools, potter's wheel; decoration.

2. Modern. Clay as it comes from the earth; grinding; mixing; molding; storing in kilns; firing; storing; packing for shipment.

Compare processes with those of clay modeling at school; with those of primitive people.

Location of potteries depends on what?

Importance of the industry.

References:—Information Reader No. 2.

Chart on "Clays," Natural Science Collection.

Makers of Many Things.

How Man is Housed.

1. Earliest shelter.

a. Wide spreading trees.

b. Caves; in ground; in soft rock; in cliffs.

c. Branches covered with leaves and grass.

- d. Tents; poles covered with leaves, bark, sod, skin, felt, linen, wool.
 - 2. Houses with walls and roofs.
 - a. Walls; wicker work plastered with mud; sun dried brick; adobe; rude stones piled up; rude boards; stone blocks cemented; baked brick cemented.
 - b. Roofs; thatched; skins; boards; flat stones; bricks arched.
 - c. Windows; mere holes; barred or latticed; thin shells; skins; oiled paper; glass.
 - 2. Pioneer homes: Log cabins. Describe. Build.
 - 4. Modern Houses.
 - a. Foundation; brick; stone; concrete.
 - b. Basement; well ventilated; concrete floors.
 - c. Walls: Exterior frame; brick; stone; concrete; stucco Interior: Lined with heavy paper; plastered; plaster board; painted; tinted; papered.
 - d. Roofs: Shingles; tin; terre cotta tile; slate; asbestos.
 - e. Windows: Glass panes; screens; shutters; awnings.
 - 5. Odd Homes: China; Japan; houses on stilts.
- See:—How World is Housed.
Information Readers II and III.
Seven Great Monarchies, Vol. 1.

Brick Making.

- 1. History.
 - a. Invented by Chaldeans; sun dried; baked; glazed; colored; size 13"x13"x3".
 - b. Egyptians; clay and straw; sun dried.
 - c. Assyrians; baked; painted and enameled and baked again.
 - d. Chinese—Great Wall.
 - e. Roman—Carried brick making into Great Britain and Germany. Rapid progress.
- 2. Brick making in United States.
 - a. By hand. Describe.
 - b. By machine. Describe.
- 3. Varieties: Many—Name some.
- 4. Uses.
- 5. Importance of industry.
- 6. Brick industry in Belleville.

References:—How the World is Housed.
Information Readers.

Paper Making.

The ancients used various methods and materials to record their history. First writing was done on clay tablets, skins and bones of animals, wooden blocks and the bark of trees, ivory and wax tablets,

metal plates, even of gold and silver; leaves of olive, palm, and poplar tree; papyrus, terre cotta, parchment made from the skins of sheep and goats.

1. History—Wasps were first paper makers.
 - a. Papyrus—Egyptians.
 - b. Parchment—Why expensive; present use.
 - c. Chinese made paper from wood pulp second century before Christ.
 - d. Crusaders brought method to Europe.
 - e. Cotton and linen rags used.
 - f. Wood pulp used.
 - g. First paper mill in America in 1690.
 2. Process of making paper from rags.
 - a. Early and present way of gathering rags.
 - b. Importation of rags.
 - c. Stages through which rags pass.
 3. Making paper from wood pulp.
 - a. Kinds and quantity of wood used.
 - b. Method of paper making from wood pulp.
 4. Kinds of paper and their uses.
 5. Important paper mills. Value of paper output. Contribution of paper to general progress of the country.
- References:—Makers of Many Things.
How the World is Housed.
Information Readers No. 4. Chart.

Fire and Its Uses.

1. History of Fire. Ancient Grecian and Indian traditions. (How the World is Housed; Early Cave Dwellers; Iron Star.)
2. How produced. Without matches by means of wood. (Manual Boy Scouts of America.) How the Indians started fire by means of flint. The Greeks. The Chinese. The savage tribes of Africa.
3. Matches. First kind made. Splinters soaked in chemicals. Other kinds. Modern way of making matches. (Makers of Many Things.)
4. Causes of Fires: Lightning; combustion; friction; other causes.
5. Uses of Fire: Lighting and heating of houses; moves cars, steamships, flying machines; manufactures; necessity for food and comfort.
6. Methods of Heating: The Eskimos, Koreans, Chinese, Japanese; other countries.

Fuels and Their Uses.

Make a study of the fuels mentioned below, using the outline given for the study of oil as a guide in the study of the other fuels.

Study wood, coal, oil, gasoline, gas, and how electricity supplants all.

1. History of development of use of oil. Known to the Greeks, Romans and Persians in ancient times. When discovered in our country?

2. Location of oil fields. In different parts of the world. Best oil fields in the United States and in the region about the Caspian Sea.

3. Oil Wells. First oil well in United States near Titusville, Penn. Depth of wells. Derricks.

4. How sent to different places. Pumping stations; pipe lines; storage tanks; transportation of our oil to other continents.

5. Kinds of oil used for fuel. Petroleum, kerosene, gasoline. Oil refineries.

6. Importance of oil as a fuel. Lighting, heating, running machinery, aeroplanes, automobiles, locomotives, steamboats.

See:—How the World is Housed.

Iron, copper, lead, gold, silver. Make a study of as many of the foregoing metals as time will permit.

Use outline for study of "iron" below as a guide in studying other metals. Make such modifications as are necessary to suit the study of the particular metal.

Iron.

I. History of use of iron.

a. Used several thousand years before Christ.

b. By the Egyptians.

c. The Greeks; the Romans.

d. Time of the Crusaders.

e. Dome of Porcelain Pagoda built by Chinese during 15th century was cast iron.

f. First use of iron in our country.

g. Development of use of iron.

II. Where found.

a. In nearly all countries.

b. Commercially mined in over half of the states of our country.

c. Richest and most extensive of these deposits lie around the southern and western sides of Lake Superior.

III. Mining of iron ore.

a. Method of mining the ore about Lake Superior; of ore that lies far underground.

b. Transportation of iron ore to places where it is turned into iron and steel.

IV. Smelting of iron ore.

a. Iron from mines is mixed with rocks and other minerals.

b. Method of extracting the pure iron from the ore.

V. Uses of iron.

VI. Importance of iron in the advance and progress of civilization.

References:—How the World is Housed.

Carpenter's North America.

Industrial Studies of United States—Allen.

Information Readers.

Charts of Natural Science Collection.

Makers of Many Things.

ELEMENTARY GENERAL SCIENCE.

GRADE VI.

September-December:—A study of the various animals and products as sources of food. Make a study of the problems of production; transportation; preservation, and conservation of foods.

January:—Water Supply. Disposal of Wastes.

February:—Light and Lighting.

March:—Heating of Houses. Electricity in the Home.

April:—Tools and Machinery—Sources of Power.

May:—Travel in Belleville and elsewhere.

June:—Roads and Road making.

In the Home.

A study of various problems arising in connection with the study of food supply. Source of supply, marketing, preparation and preservation, dependence of people for whom it is impossible to produce their own food, and importance of occupation of many people engaged in production, manufacturing and transportation of the food supply.

Milk and its uses. Milk as a food, necessity in cooking and baking. How to care for milk to keep it from souring prematurely; pasteurization, scalding, refrigeration. The necessity of a tight cover on milk container to prevent milk from absorbing odors given off by food stuffs with which it is stored in refrigerator.

Use made of milk in manufacture of butter and cheese.

Make butter from simple directions. Make cottage cheese.

The dairy industry. Necessity for cleanliness and strict observance to rules of hygiene and sanitation to safeguard health and lives of consumers of dairy products.

Wheat as a source of food.

Make a brief study of wheat producing areas of the United States. The planting, harvesting and transportation of wheat to mills and elevators. Name some of the larger flour manufacturing centers. Distribution of flour to cities and villages throughout the country.

Have a sample of flour. Make whole wheat flour by using mortar and pestle (primitive method), or by grinding wheat in coffee grinder.

Compare with flour from mill. Value of whole wheat flour as a food.

Break making. Yeast. What is it? Its use in bread making. Set sponge for bread. Bake bread at home of one of the pupils living near school if there are no facilities at the school.

The bakery. Why necessary? Growth of the institution. Method of distribution of its products. Consider the economic problems by comparing the cost of bread used that is made in the home with the cost of the bread produced outside of the home.

How perishable foods are prepared for the market and how such foods produced at or near the homes are preserved for future use.

Preservation of food: by drying; by canning; by salting; by use of sugar; by use of vinegar; cold storage.

Canning fruits and vegetables.

By preliminary sterilization.

By cold pack method.

Without sterilization.

Develop the various processes in connection with the canning of fruits and vegetables and, if at all possible, do the actual work with the class.

What is it that causes foods and vegetables to spoil? What effect has the heat on the bacteria? Why must the cover on the fruit jar be air tight? Why does canned fruit sometimes spoil?

Benefits to mankind derived from being able to preserve foods by canning. Kept from going to waste; can be carried long distances; food supply during non-producing seasons, etc.

Importance of large canneries in canning food for the market. Important sources of food for people living in cities. Name varieties of canned goods bought at the grocers.

Preservation of Eggs.

2. Advantage of storing eggs.

Methods of testing eggs.

1. How to determine the freshness of an egg.

2. Testing eggs for freshness. Candling. Make an egg candler, and test eggs. Other methods of testing.

Ice Box.

1. Its construction; use; care of same. How to prevent waste in the use of ice.

2. Other methods of keeping perishable foods during the hot weather.

3. Iceless coolers. Action of same depends on principle of evaporation.

4. How to make an iceless refrigerator.

How Money is Wasted in Use of Food.

1. Food is wasted in harvesting; insufficient and slow transportation facilities; lack of necessary refrigeration; place of production too far removed from consumers.
2. More food is prepared than is necessary; food is bought out of season; charge accounts are used too often.

Drying Fruits and Vegetables.

1. Object of drying fruit.
2. Advantages of drying; reduction in weight; reduction in bulk; material may be stored almost indefinitely without danger of deterioration; no need for expensive special container.
3. Fundamental principles of drying. Evaporation depends upon the movement and temperature of air.
4. Methods and equipment for drying.
 1. Drying without artificial heat. Preparation of the material. Drying in the open air. Advantages; disadvantages. How to make an outdoor drier. Drying with an electric fan. Method.
 2. Drying with artificial heat. Cook stove driers. Portable outdoor driers. Driers employing steam heat.
5. Discuss briefly the preparation and drying of the following fruits and vegetables: Apples, pears, peaches, apricots, cherries, prunes, figs, berries, potatoes, turnips, beets, parsnips, carrots, cabbage, okra, sweet corn, beans, and peas, celery, spinach.

References:—Hodgdon's General Science.

Farmer's Bulletin, No. 984.

How the World is Fed.

Electricity in the Home.

- a. What work electricity does for us. Enumerate the many uses to which electricity is put.
- b. Study briefly a few inventors—Bell (telephone); Edison (light, etc.); Morse (telegraph); Marconi (wireless), etc.
- c. Electric currents produced in electric cells—wet and dry cells. Construction of wet cell, of dry cell. Dry cells more convenient than wet cells.
- d. Electric current used in city generated by water power at Keokuk, Iowa. If possible, show picture of power plant and dam, turbines, etc., at Keokuk.
- e. Electric bell. Parts of bell: Electro magnet, armature, clapper, screw or point. Wires (copper); current (reduced or cells). Get some worn out dry cells if others are not available, and renew same by removing tops and adding sulphuric acid solution. Cells not powerful enough to do much besides ringing of bells.

Install an electric bell in the schoolroom.

Possible trouble to be met with in installation of bell: Broken wires; poor connection; when armature rests upon magnet (spring trouble); when clapper is too far away from bell to strike it; point or screw may be missing so circuit cannot be broken or closed; short circuit.

f. Short Circuit. What is it; how caused; how corrected; why wires are insulated.

g. Fuses. Fuses installed in homes to break circuit. Where installed in the home? Why? How made? Use of fuse as a safety device.

Methods of Disposing of Wastes.

- a. Disposal of Wastes.
 1. Sewage.
 2. Garbage.
 3. Rubbish.
 4. Ashes.
- b. Sewage. Waste matter from kitchen, sinks, toilets, laundries, and the like.
- c. Danger of sewage to health.
 1. Offensive odors.
 2. Poisonous gases.
 3. Contains disease germs—typhoid, dysentary, cholera, etc.
- d. Disposal of sewage. Uses of cesspools, vaults, septic tanks.
 1. Removal from premises.
 2. Final disposition after removal.
 - a. Discharged into bodies of water.
 - b. By means of chemicals.
 - c. By filtration.
 - d. By "bacterial treatment."
- e. The sewer.
 1. What is a sewer?
 2. Material used in construction of same—iron, cement, bricks, and vitrified pipe.
 3. Construction. The following points should be carefully noted—joints, fall, flow, size, connections, back-water valves, traps.
- f. House sewer air.
 1. Prevent sewer air and gas.
 2. Provide for ventilation.
- g. The sewage system of Belleville.
- h. Garbage—Vegetables unfit for table use, waste scraps of all kinds from the kitchen and waste animal matter.
 1. How it endangers health.
 2. How it is disposed of. Reduction, incineration, feed for stock. May be made a source of revenue.
- i. Rubbish—Paper, rags, bottles.

- j. Disposal of ashes.
- k. Plan of garbage disposal in Belleville. What is the yearly cost of the collection and disposal of garbage?

Water Supply of the Home.

I. Importance of Water Supply.

Used for drinking, cooking, bathing, laundry purposes, cleansing homes and streets, flushing sewers, fire protection, sprinkling streets and lawns, in boilers, etc.

II. Sources of Water Supply.

- 1. Primitive man built homes near rivers or springs.
- 2. Wells.
 - a. Kinds. (Shallow and deep.)
 - b. Location.
 - c. Necessity of keeping well covered; of cleaning often.
 - d. Purification of water by boiling, distilling, filtering, etc.
 - e. Deep wells. How dug; advantages.
 - f. Artesian wells.

III. How does Belleville get its Water Supply.

- a. Source; Mississippi River.
- b. Pumping station.
- c. Reservoir.
- d. Filter plant.
- e. Mains.
- f. Hydrants and faucets.
- g. Engines that run pumps.

Heating of Houses.

- a. History of fire. Nature of combustion. Heat, air and fuel necessary.
- b. Fuels. Kinds, characteristics.
- c. Indoor fires—Fire places, stoves, furnaces, firepots, flues, drafts, dampers, etc.
- d. How heat travels.
 - 1. Conduction.
 - 2. Convection.
 - 3. Radiation.
- e. Stoves—Convection, radiation.
- f. Hot air furnaces. How they heat homes.
- g. Hot water furnaces. How they heat houses.
- h. Steam heat. Principle.
- i. Heat for cooking purposes.
 - 1. Coal and wood cook stoves and ranges.
 - 2. Liquid fuels and burners.
 - 3. Gasoline, kerosene, alcohol, etc. (Dangers.)
 - 4. Gas.

5. Electricity.
6. Fireless Cookers.
- j. Use of convection currents to heat waters for bathroom, laundry, etc.

Light and Lighting.

- I. Lighting in ancient times.
 - a. First artificial light—fire place; pine knot in fire place or cresset.
 - b. Clay saucers, or shells filled with oil or grease, into which a piece of twisted cloth was thrust for a wick; pith or moss.
 - c. Lard, fish or whale oil lamps and torches.
 - d. Candles; kind; made of; how used; how made formerly; dipping; candle molds; experiment; how light is produced.
- II. Lighting in modern times.
 - a. Kerosene—obtained from; parts of a lamp and uses. Experiment—How light is produced.
 - b. Gasoline—Gasoline lamps.
 - c. Gas. Kinds—coal gas, natural gas, acetylene gas; how coal gas is made; generate coal gas by experiment; parts of a gas lamp and uses. Experiment—How light is produced.
 - d. Private gas plants.
 - e. Gas supply of city of Belleville. How gas consumed is measured; cost of gas. Advantage of gas light compared with oil lamp or candle light.
 - f. Electric light. Kinds—incandescent, arc lights. How electric light bulb is made; how light is produced. How electricity gets from the power house to the lamp.
 - g. Electric lighting system of Belleville. How electricity consumed is measured; cost compared with other modes of lighting; advantages.

References:—How the World is Housed.

Information Readers Nos. 3 and 4.

Studies in Science—Patterson.

Tools and Machinery.

In the study of this subject show how the sources of power enumerated below are of advantage to man and are utilized for his benefit and convenience. Show by experiment, wherever possible, how the power is converted into useful work.

Sources of Power.

Animal, water, air, gravity, steam, gas engine, electricity, the siphon, the lift pump, force pump, air pump.

Travel in Belleville and Elsewhere.

- I. By horse.
- II. Steam cars.
 - a. Development of railway engine.
 - b. Compare railway engine with steam engine.
 - c. Gasoline launches.
 - d. Submarine boats—Engines.
- III. Automobile.
 - a. Study of gasoline engine compared with steam engine.
 - b. Electric automobiles.
 - c. Study of tires.
- IV. Balloon.
 - a. Envelope.
 - b. Manufacture of gas for the balloon. Process of filling.
 - c. Accessories. (Car or basket, etc.)
- V. Aeroplane.
 - a. Kinds.
 - b. Principles.

Roads and Road Making.

- I. Importance of Good Roads.
 - a. How good roads assist the farmer.
 - b. Why are city people interested in country roads?
- II. First Expert Road Builders. (The Romans.)
 - a. Expense of construction met by government.
 - b. Plan of construction.
- III. Our Early Roads.
 - a. Dirt roads.
 - b. Roads made and improved by private parties. (Toll roads.)
 - c. Former toll roads in our county.
- IV. How Expense of Improvement and Maintenance of Public Roads is met.
 - a. Local taxes.
 - b. State aid.
- V. Plan of our State to improve certain roads in all parts of the State.
 - a. Source of revenue.
- VI. Building of Macadam Roads.
 - a. How macadam roads differ from Roman roads.
 - b. Method of construction.
- VII. Concrete Roads.
 - a. Kind of paving meeting general favor at present time.
 - b. Perhaps too early to judge wearing quality and general satisfaction.
 - c. How constructed. Necessity of expansion joints.

VIII. Brick Roads.

- a. Importance of brick paving as a wear-resisting surface.
- b. Comparative cost as compared with macadamized road.

IX. Making Concrete.

- a. Proper proportions of cement, sand, crushed stone.
- b. Other uses of same besides "paving."

Improving of Streets in the City.

I. How expenses of paving streets is met.

II. Methods of Paving.

- a. Streets need to be paved according to use that is made of them.
- b. Kind of paving necessary where teaming and traffic is heavy. Wear-resisting. Bricks, concrete. (Noisy.)
- c. Boulevards and residence streets having little or no heavy traffic should have quieter pavement. Asphalt, macadam, tar macadam, creosote wooden blocks.
- d. Dwell briefly on construction of the different kinds of paving.

ELEMENTARY SCIENCE.

Based on Clark's, An Introduction to Science, A. B. C.

When one asks Nature a question one goes about it by performing an experiment to see what she replies. Keep this vividly before the class. It will put life into the experiments.

The pupils should perform all the experiments that are not too difficult or too likely to waste material.

SYLLABUS.

—8B—

1. Heat.

- a. Sources—natural and artificial.
- b. Effects of.
 1. Experiment to show.
 2. Expansion and contraction.
 3. Temperature.
 4. The Thermometer.
- c. Conduction.
 1. Experiment.
 2. Results or use.
- d. Convection.
 1. Experiment.
 - Use and phenomena of.
- e. Radiation.
 1. Experiment.

2. Uses.
- f. Absorption.
 1. **Experiment.**
 2. Uses.
- g. Use the knowledge gained from the above, in a lesson on each of the following points.
 1. Climate.
 2. Winds.
 3. Rain and dryness—Distribution of Life.
 4. Storms.
 5. Weather Bureau and its work.
- h. Problems.
 1. Why is it hot in Belleville during July and August and cold during January and February?
2. Name all the uses of heat you have seen or read about.
- i. Heat of Vaporization.
 1. Distillation.
 - a. Experiment.
 - b. Practical uses of.
 2. How it effects the temperature of our bodies in summer.
- j. Production and Use of Heat:
 1. Importance of fire.
 - a. Fires 100 years ago.
 - b. The first stoves.
 2. Methods of heating buildings.
 - a. Open fireplaces and stoves.
 - b. Furnaces.
 - (a) Hot air.
 - (b) Hot water.
 - (c) Steam.
 - c. What constitutes a good chimney?
 3. Fireless cooker.
 - a. Experiment.
 - b. Explain.
 4. Thermos bottles and refrigerator.
- k. Fuels:
 1. Discuss each of the following ones, geographically and industrially:
 - a. Wood.
 - b. Coal.
 - c. Petroleum.
 - d. Gasoline.
 - e. Gas.
 1. Compare each for the home as to cost, convenience, and all around utility.

2. Teach how to read gas, electric and water meters.
 2. Now treat them as chemical compounds, by going into the chemistry of their principal elements. Then discuss:
 - a. Carbon:
 1. Experiment.
 2. Discussion of.
 - b. Oxygen:
 1. Experiment.
 2. Discussion of.
 - l. Burning or Oxidation:
 - a. Different phenomena of.
 - b. Matches.
 1. Experiment.
 2. The physics, chemistry and industrial viewpoint of.
 - c. Mouth breathing.
 1. Causes of and how to cure.
 2. Correct breathing, and its necessity.
 - d. Ventilation.
 1. Experiment.
 2. How to ventilate the schoolroom and how to ventilate our homes.
 - m. Carbon Dioxide:
 1. Experiments.
 2. Commercial uses.
 3. Our foe and our friend.
- II. Food and Nutrition:
- a. Importance of.
 - b. The body, a machine.
 1. Cells.
 2. Work done.
 - c. Why we eat so much.
 - d. What substances must the foods furnish?
 - e. Kinds of food:
 1. Carbohydrates.
 2. Fats.
 3. Proteins.
 4. Minerals.
 5. Water (See VIII also).
 - a. Necessity of.
 - b. Purity.
 - c. Supply
 - d. Work done by.
 - f. Where do foods get the energy they contain?
 1. Experiments.
 2. Daily fuel needs of the body:
 - a. Calory.
 - b. Nutritive ratio.

- c. Work this out for each home—i. e., get the pupils to do it.
- g. Varied diet and need of bulky foods.
- h. Mistakes in buying.
- i. When and how to buy.
- j. Waste in buying and in use.
- k. Problems:
 - 1. Select enough food for three meals for five people that will have a nutritive ratio of 1 to 6.
 - 2. Keep an itemized account of all food purchased for your home; see if any improvement could be made in quality and, at the same time, make a reduction in cost.
- l. Cooking.
 - 1. Changes produced by.
 - 2. How to cook:
 - a. Vegetables.
 - b. Meat: fry, roast, broil, boil and stew, soup.
 - 3. Overcooking; the double boiler.
- m. Preservation of foods:
 - 1. Cold storage.
 - 2. Cellars.
 - 3. Canning.
 - 4. Preserving.
 - 5. Drying.
 - 6. Smoking.
 - 7. Salting.
- n. Meat inspection and pure food laws.
- o. Bacteria:
 - 1. Experiments.
 - 2. Spoil food and cause disease.
 - 3. General discussion of.
 - 4. How they cause decay.
 - 5. Ptomaine poisons.
 - 6. How to destroy.
- p. Yeasts:
 - 1. Experiments.
 - 2. Prevalence of.
 - 3. Fermentation:
 - a. Putrefaction.
 - b. Alcohol.
 - c. Sour milk and cheese.
 - 4. Bread.

Perform experiments and treat quite fully each of these.
- q. Molds:
 - 1. Experiments.
 - 2. General discussion of.
 - 3. Effect of mold growth on food.

- r. Sterilization and Pasteurization.
- s. Baking Powders and Soda:
 - 1. Salts.
 - 2. Baking soda.
 - 3. Baking powders.
 - 4. Sources of soda.
- t. Substitutes for and adulterants of foods.
 - 1. Substitute for sugar.
 - 2. Artificial preparation of vinegar.
 - 3. Butter—its renovation, etc.
 - 4. Oleomargarine:
 - a. Experiments.
 - b. General discussion of.
 - 5. Olive oil and cottonseed oil.
 - 6. Adulteration of jellies and extracts.
 - 7. Coloring matter in foods.

III. Chemistry of Common Things.

- a. What is chemistry?
What has it done for us, and what is its present status?
- b. Molecules and atoms.
- c. Acids and bases.
 - 1. Experiments.
 - 2. General discussion of.
 - 3. Uses.
- d. Neutral substances—Tests.
- e. Soap.
 - 1. How it is made? Make some.
 - 2. How it cleans.
- f. Washing powders.
- g. How to remove—stains, grease, point, etc., from cloth.
- h. Hard water.
- i. Preservatives and Disinfectants.

IV. Bleaching, Bluing, Starching.

- a. Experiment.
- b. Natural and artificial agents.
- c. Chlorine as a bleacher.
- d. Bleaching powder.
- e. Commercial bleaching.
- f. Wool and silk bleaching.
- g. Why color returns.
- h. What blueing is.
- i. Good and poor blueing.
- j. Starch.
 - a. Source.
 - b. Experiments.
 - c. Uses of.

V. Dyes:

- a. Sources; b, Commercial importance; c, Wool and cotton dyeing; d, Selection of dyes; e, Indirect dyeing; f, How variety in color is secured; g, Color designs in cloth; h, Visit one of our cleaning and dyeing places of business.

VI, General Review.

—8A—

I. Metals used in the home:

a. Value and sources of metals:

1. Correlate with geography.
2. Treat from the home and commercial standpoint.
3. Ores—how refined. Show the class specimens of the ores.

1. Iron:

- a. General discussion of.
- b. Visit a foundry.
- c. Report on a visit to a mine.
- d. Visit a blacksmith shop and ask the smith to tell you about welding and how he hardens or softens a piece of steel.

2. Copper:

- a. General discussion of.
- b. Home use.
- c. In a mine at Miami, Arizona.

3. Tin:

- a. General discussion of.
- b. Home use.
- c. Have a report made on a tin mine in Wales.

4. Zinc:

- a. A visit to a mine in Joplin, Mo.
- b. Home use.
- c. Present importance.
- d. General discussion of.

5. Lead:

- a. Visit a plumbing contractor.
- b. Used in the house.
- c. Industrial importance.
- d. General discussion of.

6. Alloys.

7. Aluminum:

- a. Home use.
- b. Industrial importance.
- c. Discuss the source, and the extracting plant in East St. Louis. Show some raw material.

8. Characteristics of metal.

II. Oils, Paints, Varnishes and Creosote.

- a. Why we use them.
- b. What are they, or out of what are they made?
- c. Ask a master painter or a contractor to give your class a talk on the practical side of the work. Ask him or another contractor to give the class a talk on the vocational side, or the good and bad points of the trade.

III. Electrical Appliances and Machines.

- a. Something about electricity.

Electrification by friction:

1. Experiment.
2. Discussion of.
- c. Lightning rods.
- d. Current electricity.
- e. Electrical units.
- f. The simple electric cell.
- g. The dry cell.
- h. Magnetic field about a current.
- i. The electromagnet.
- j. The common electric bell.
- k. The telegraph.
 - l. The wireless telegraph.
- m. Electric lights.
- n. The telephone.
- o. Problems.
 1. In the above topics, wherever possible, begin each with one or more experiments.
 2. Where is the best place to be during a thunder storm? Why?
 3. How many volts and amperes are used by your electric lamps at home? $V \times A = W$.
 4. Examine your electric bell and push button. Explain how they work.
 5. Does a telephone carry sound? Explain.
 6. Explain how trolley cars run.
 7. Explain the electric iron and electric stove.
 8. Explain the electric fan and the washing machine.

IV. Light:

- a. Sources of—natural and artificial.
- b. What it does for us.
- c. Intensity of light.
 1. Experiment.
 2. Law of decrease.
- d. Reflection and refraction of.
 1. Experiments.
 2. Discussion of.
- e. What it is and how it travels.

- f. Indoor illumination.
 - g. First or early artificial light.
 - 1. Torches.
 - 2. Oil.
 - c. Candles.
 - h. How lamps make light.
 - i. Gas burners; mantles; fluted glass reflectors.
 - j. The Tungsten lamp.
 - k. The eyes are sensitive.
 - l. Eyestrain.
 - m. Light should come from overhead.
 - n. Indirect light.
 - o. The magic of the sun.
 - p. The camera.
 - q. Light and disease.
 - r. Light and growing plants.
 - s. Color.
 - 1. Primary and complementary.
 - 2. How and why colors change.
 - 3. The rainbow.
 - 4. Color blindness.
 - t. Problems:
 - 1. Is the earth a source of light? Explain.
 - 2. What weather conditions produce a rainbow?
- V. Simple Machines:
- a. What is a machine? Make a list of those in your home.
 - b. Evolution of machines.
 - c. Define: 1, energy; 2, force; 3, work; call for examples of each.
 - d. Develop the formula: $W=f \times d$ (w=work, f=force; d=distance).
 - e. Unit of work.
 - f. The lever:
 - 1, definition; 2, examples; 3, classes; 4, uses; 5, laws (formulas); 6, problems.
 - g. The inclined plane.
 - h. The wedge and (I) screw.
 - j. The pulley.
 - k. Wheel and axle.
- VI. Water wheels and wind mills:
- a. Trace the electricity we use back to where it is generated. Tell us about the plant.
 - b. Ask at the Gas and Electric office if they will send a man to the Junior High School, to talk on a turbine water wheel, and how theirs are installed at Keokuk.

- c. Tell about the beauty of Niagara Falls, and the wonders of its power plants.
- d. Make a pin wheel and explain its action.
- e. Describe a wind mill.
- f. Describe a gas engine.
- g. Explain the steam engine.

Ask a dealer to give the class a talk on the two.

VII. Water or liquid pumps:

- a. Their use to us.
- b. How the air aids in pumping.
- c. The siphon:
 - 1. Experiment.
 - 2. Explanation of.
 - 3. Practical use.
- d. The common pump.
- e. The force pump.
- f. The bicycle pump:
 - 1. Kind of pump?
 - 2. Take out its valve and explain its action.

VIII. Our City Water Supply. (See "II" also).

- a. Problems:
 - 1. Visit the source of our supply and study the plant, or call on the superintendent of the Belleville district to give you a class talk or a talk at his office.
 - 2. Water: The value of our system and the necessity of its purity.
 - 3. How our supply is purified.
 - 4. How our supply reaches us.
 - 5. Why it costs so much.
 - 6. Well: How to have good ones.

IX. Clothing:

- a. Uses of.
- b. Kinds of.
 - 1. Cotton, woolen, linen, silk, leather, fur, and adulterant.
 - a. By experiments give tests that will help the pupils to distinguish each kind and its adulterants.
 - b. Discuss each from the standpoint of efficiency, cheapness, and esthetic quality.
- c. Bad effects of tight clothing—shoes included.
- d. Proper amount of clothing.
- e. Color and dyes.
- f. Proper way and time and place for wearing furs, mufflers, rubber coats and overshoes.

X. Emergencies:

- a. General directions.

- b. Unconsciousness.
 - 1. Fainting.
 - 2. Apoplexy.
 - 3. Convulsions or fits.
 - 4. Sunstroke and heat exhaustion.
 - 5. Suffocation: Drowning, smothering, hanging, and gas-poisoning.
 - a. Treatment—Sylvester method.
 - b. After or later treatment.
 - c. Injuries.
 - d. Poisons:
 - 1. Symptoms.
 - 2. General treatment.
 - 3. Kinds.
 - a. Give symptoms and treatment for each of the following: (a) acids; (b) Alkalies; (c) narcotics; (d) venomous bites and stings; (e) ivy.
 - e. Snake bites and chiggers.
- XI. Meat, fish and eggs:
- a. How can you tell the fresh from the stale?
 - b. Determine the fresh eggs by experiments.
 - c. Tell how to preserve eggs.
 - d. Which are the best parts of meat? Why?
 - e. Tell how to cook the cheaper meats so that they will be palatable.
 - f. Name three or four of the best kinds of fish.

Reference Books.

- 1. Clarke:—An Introduction to Science.
- 2. Elhuff:—General Science.
- 3. Barber:—First Course in General Science.
- 4. Snyder:—First Year Science.
- 5. Pease:—A First Year Course in General Science.
- 6. Caldwell-Eikenberry-Pieper:—General Science.
- 7. Wiley:—Health Reader.
- 8. Conn and Budington:—Advanced Physiology and Hygiene.
- 9. Ritchie:—Primer of Sanitation and Physiology.
- 10. Walker:—Anatomy, Physiology and Hygiene.
- 11. Rowell:—Introduction to General Science with Experiments.
- 12. Fall:—Elementary Science.
- 13. Hesler:—The First Year of Science.
- 14. The encyclopedias, geographies, botanies, astronomies, and articles and objects in our Museum.
- 15. Hodgson:—Elementary General Science.

HEALTH HABITS.

GRADE I.

General suggestions: Give the pupils every opportunity for free expressions; let them tell their own experiences, but be sure that the talking is not confined to two or three children only. Have pupils make up health slogans. Place one on board for each week for reading exercise. Do not allow any deviation from your rules of courtesy when they have once been given, and for that reason work on one thing at a time, gradually building up good habits.

September:

1. Parts of body; head, trunk, limbs; parts of head.
2. Care of body; bathe, how; wash face, neck, ears, how; brush and comb hair; care of eyes; cleaning teeth, how and why.
3. Swat flies, why?
4. How to address teacher; greeting, good morning.

October:

1. Parts of limbs; elbow, wrist, knee, ankle.
2. Continue 2 and 3 of September.
3. How to dress; care of clothes at night.
4. Courtesies; please, thank you, excuse me, pardon me.

November:

1. Work of hands and feet; care of same; nails, clothing of hands and feet.
2. Continue 2 and 3 of September.
3. How to clean hands and care of nails.
4. Manners in yard, in ranks, in room, at board.

December:

1. Use of bones and muscles; correct carriage of body.
2. Standing and sitting, why? Exercise.

January:

1. Review.

February:

1. Use and care of trunk; proper breathing; fresh air in house in winter months.
2. Review 1, 2, and 3 of September.

March:

1. Exercise, why; rest, why; sleep, fresh air.
2. Review 4 of September.

April:

1. Swat flies, why? Prevention of flies.
2. Drinks, good water, avoid ice water.
3. Review 3 and 4 of October.

May:

1. Care of voice. Kinds of voices. Courtesy in use of voice.
2. Review 3 and 4 of November and 2 of December.

June:

General review.

GRADE II.

Read outline for Grade I.

September:

1. Form right habits, why? Regular meals; no eating between meals; regular bathing; regular sleeping hours; regular study periods.
2. Eating habits; chew food well.
3. Teeth; what they are for; what causes decay; cleaning.

October:

1. Continue discussion of importance of right habit.
2. Kind of food we need; milk, meat, eggs, vegetables, bread, fruits, sugar (candies should be eaten with meals).
3. When eat; when not.

November:

1. What we should drink and not drink; water, milk not ice-cold; not much soda water; no tea, coffee.
3. Cleanliness—necessity for clean water and food; food should be covered, why?

December:

cold; not much soda water; no tea, coffee.
ventilated rooms, day and night; avoid use of public drinking cups; don't use other people's towels; keep pencils and all things but food and drink out of mouths; stay away from people who have colds.

January:

Review of four months' work.

February:

1. Treatment of colds—stay away from other people, stay in bed; if severe, accompanied by fever or sore throat, call doctor.
2. Care of skin and hair. Bathing. How wash; how often wash hair?

March:

1. How to take care of nails, cleaning, cutting; when clean—while hands are soft from washing; things not to do with nails, scratching, putting in mouth, biting, breaking.
2. Care of feet, and nails; proper fitting shoes.
3. How to keep hands from chapping.

April:

1. Clothing, why needed; different kinds of peoples of different climes. When best warm clothing—flannels and woollens; best for

outer wear; cotton best for underwear. How to dress for inclement weather.

2. Care of body when chilled by sudden changes of weather—rain, cold.

May:

1. Living out of doors; play out doors; do not play hard right after eating; what play does for a child; kinds of games; right attitude of fairness in play. Continue talk on formation of right habits. (Based partly on Woods Hutchinson's outline for Primary Grades.) Teachers supplied with Woods Hutchinson's "The Child's Day."

GRADE III.

Read works for Grades I and II.

September:

1. Review parts of body. (Gr. I.)
2. Organs of body, heart and lungs, stomach, intestines, liver, kidneys. Locate.
3. Courtesies: Cleanliness and neatness first.

October:

1. Use of the organs. Stomach and intestines receive food and prepare it for use; heart keeps blood moving through body; lungs take in oxygen from air, clean blood; kidneys take waste out of blood and carry to bladder.

2. Care of public property. Avoid throwing paper, peelings, cores, etc., on street, in yards; whittling and scratching buildings, fences; writing or scribbling on same, or in books; care of books; how to open new ones; books not carry all; keep clean; return borrowed books.

November:

1. Care of organs; body dependent on health of all these parts. (Illustrate by telling story or reading poem "The wonderful One-Hoss Shay"). Give lungs plenty of room; sleep in fresh air; keep down dust; breathing exercises; harm of mouth breathing; adenoids; enlarged tonsils. Heart—avoid violent exercises.

2. Conduct at school; manner of greeting classmates; teachers; forms of address; good-bye; interrupting those who speak; service in school, to each other and to teacher; sympathy—unkind to laugh at mistakes, etc.; new pupils, reception of; rich and poor; when schoolmates are ill; boys' conduct towards girls and women; girls and boys to older people; raising hats; walking without shuffling; look straight in the eyes; use "Excuse me" or "Pardon me" when necessary; avoid pouting, teasing, boasting, whining, crowding and pushing at doorways or on cars.

December :

1. Care of skin; keep clean; change wet clothes for dry; dress warmer in cold weather; wear shoes that fit; sensible heels. Carriage of body—how—importance of erect position. Exercise.

2. Make posters on courtesy, manners, hygiene, cleanliness.

January :

General review.

February :

1. Importance of forming good habits—habits our masters—begin now to form those that you'll not need to break. Habits to cultivate. Exercise; sleeping with windows open; swatting the fly; cleanliness of body, face and hands, nails, hair, nose, teeth, mouth (dirt causes sores); neatness; proper use of handkerchief; use of individual drinking cups, combs, towels and brushes; thoughtfulness for the old and weak; courtesy towards one another.

Habits to avoid: Keeping mouth open; putting things into mouth; blowing nose into hand; using public drinking cups, combs, towels, brushes, etc.; rubbing eyes with hands; exchanging books; drinking water you are not accustomed to; kissing on the mouth.

2. Make paper drinking cups. Posters on habits.

March and April :

1. Needs of body, air, sunlight, heat, food. Food, kinds—building, repairing, giving strength and heat. Building—bread, grains, peas, beans, cheese, nuts. Strength and heat: Starches, sugar, fats, oils in potatoes, wheat bread, corn bread, macaroni, rice, molasses, honey, syrups, butter, milk, oil, lard, meat.

2. Swat flies. Why? Prevention of flies. Sreening. Mosquitoes. Prevention of. Care of yard and alley.

May :

1. Mixed diet necessary; learn to eat many kinds of food; chew food well; not too much at a time; eat regularly—not between meals; drinks—cooled, not iced.

2. Number 2 of February, March and April.

June :

General review.

GRADE IV.

What Good Health Means.

It pays to have good health. Good health is possible. Health Problems.

Health Habits.

The foundation of health. Making habits. Correcting a habit. Health Problems.

Good Posture in Standing.

Standing habits. Cramping the machinery. The body's framework. Habits that shape the framework. How to stand correctly. Guard your habits. Health Problems.

Good Posture in Sitting.

Necessity of proper kinds of chair. A good sitting position. Health Problems.

Good Posture in Exercise and Work.

Muscle is the moving power. Use of muscles makes them healthy. How body posture affects work or exercise. Health Problems.

Health and Exercise.

Necessity of exercise. Self acting muscles, and exercise. How to exercise. Poisoning the muscles. Health Problems.

Health and Play.

Play is a health habit. Injurious play. Rules for play. Outdoor sports. Gymnastic exercise. Good food builds good muscles. Health Problems.

Sound Hearts and Good Blood.

What the heart is. Circulation of the blood. The red cells in the blood. The white cells in the blood. Importance of good blood. Take care of the heart. The main-spring of the body. Health Problems.

Outdoor Life.

Pure air. Sleeping in the outdoor air. Health Problems.

Fresh Air Indoors.

How air becomes impure. We spoil ten barrellfuls of air a minute. Changing the stale air indoors. Health Problems.

Health Habits in Breathing.

Means of breathing. The lungs. How to breathe properly. Exercise makes strong lungs. First aid, artificial breathing. Health Problems.

Health Habits in Sleeping.

Body is repaired while we sleep. How much sleep do we need? Regular habits in sleep. Fresh air. The pillow. Healthful sleep. Health Problems.

Health Habits in Eating.

Building material. The body resembles an engine. Types of food material. Work of digestion. Health rules in eating. Eat slowly; eat regularly; give digestive organs a rest; sleep; rest before eating; eat nourishing food. Health Problems.

Health Habits in Drinking.

The body's need for water. Pure water the necessary drink. Good habits in drinking. Fermented drinks. Alcohol a poison. Soda fountain drinks. Health Problems.

The Choice and Preparation of Food.

The food plants in the garden. Grains. Clean fruit and vegetables. To wash berries, etc. Preparing foods for the table. The "appetite juice." Health Problems.

The Care of the Mouth.

Starting the food right. The teeth. The teeth need exercise. Bacteria in the mouth. Keeping the mouth clean and the teeth sound. Bad habit and bacteria. Public drinking cup. Health Problems.

The Care of the Skin.

The body's perfect garment. Scarf skin. True skin. The pores. How the skin regulates the body heat. Skin must be clean to be healthful. Bathing. Rules for the cold bath. Hygienic working. Washing the hair. Caring for the nails. Health Problems.

Clothing the Body.

Clothes prevent loss of heat. Proper amount of clothing. Clothing for cold weather. Wet clothing. Importance of color. Tight clothing harmful. Weight of the clothes. Clean clothing. Shoes. Health Problems.

Protecting the Body's Health.

Cause of sickness. Germs. Germs enter through the mouth. Guarding against contagion. Tuberculosis, the deadly disease.. Preventing tuberculosis. Health Problems.

GRADE V.

What it Means to be Clean.

Cleanliness—First Law of Health. Necessity of freedom from dirt of every sort,—visible and invisible. How detect dirt which is invisible.

Dirt, the Cause of Much Disease.

Condition of Homes Hundreds of Years Ago. Ventilation, surroundings, habits of living. Result—epidemics, plagues.

Cause of much disease—germ. Not all germs harmful. Conditions that promote growth of germs; food, moisture, warmth, more or less darkness; rapidity of growth under favorable conditions.

What can we do to avoid effects of disease germs? Cleanliness of all things with which we have anything to do. Clean habits, clean places in which to live, clean air, clean food, clean water to drink, clean streets, clean yards, clean cars, clean parks.

Why people who observe all possible rules of cleanliness get sick. Neglect and carelessness of others. What to do to promote habits of cleanliness. Civic pride; organizations; cleaning-up days.

Value of cleanliness in ways of living. Annual loss of life by typhoid in U. S. 35,000. Other diseases due to dirt in some form destroy thousands of persons every year. Many cases of illness that do not prove fatal. Add to each of these the cost, pain and discomfort the diseases bring.

WHAT DOES SANITATION MEAN?

Health in the City.

Bad housing and its effects.

Insufficient air, light and space.

How tenement dwellers spread disease.

How tenements have been made healthful, attractive places.

Bad housing and its effects. Insufficient air, light, and space. No less than 500 human beings live in some of the crowded tenement houses in New York City. Number of people often living in one small room. Only about one in four of the rooms in such a building receives any sunlight.

Housing law in New York. Disease frequent in crowded tenements where there is not enough light and air.

How tenement dwellers spread disease. How tenements have been made healthful, attractive places.

How one person careless in health may cause others a great deal of harm. People who supply others with things to eat and drink do very great harm through lack of care.

Necessity of laws in city and villages to govern matters having to do with health.

"Cleaning up" days in a city. Necessity. How children can help to keep a city clean. Every person, whether young or old, should help to make his city a healthful place in which to live.

Health in the Country.

Advantages of the country over the city. Location of a country home in order to be most healthful.

One way to determine the healthfulness of a community. Compare the death rate in the country and in the city.

Diseases particularly common in the city; diseases more common in the country and small towns than in the city. Why?

Disadvantages of the country. How soil is likely to become polluted. Necessity of providing for outflow of foul fluids from compost heaps, cesspools, and the like.

The hookworm disease. Where most common; how caused; how hookworm gets into the system; how it multiplies. What is done to get rid of hookworm disease.

Country houses often lack light and air. It is not necessary to live in crowded quarters in the country.

Why do some people object to living in the country?
Health Problems.

Making One's House Beautiful.

How one's home surroundings may affect his health. How man built his early home. Why we need sunlight in our houses. A damp spot, a bad place to build a house. The cellar, the part of the house most to be considered. Health Problems.

Ventilating the House.

Impure air causes sickness. Indoor air is not as poor as outdoor air. How to keep indoor air fresh. Heating the air. How to use the stove properly. Heating the air properly. Avoid having the air too dry or too moist. The right temperature for air. Health Problems.

Lighting the House.

Light necessary for health. How to obtain plenty of light. The value of light. The use of artificial light. How to clean and care for a lamp. How to put out a gaslight. Electricity, the best artificial light. Health Problems

Cleaning the House.

Keep the house free from dust. Many things help to make dust. Dust in the schoolroom. Dust is the home of many germs. How to get rid of dust. Health Problems.

Caring for the Wastes of the House.

Collection of refuse a menace to health. The two classes of waste Using organic waste. How to get rid of useless refuse. Keep the backyard clean. Disposing of kitchen slops. Health Problems.

Disinfecting the House.

Why houses need to be disinfected. How to disinfect a house. Other means of disinfecting. Disinfecting books. Health Problems.

A Disease Carrier—The House Fly.

Flies are germ carriers. Flies spread disease. Precautions to be taken against flies. How to get rid of flies. Health Problems.

A Disease Carrier—The Mosquito.

The mosquito spreads disease. How mosquitoes are bred. The Anopheles and the Culex mosquitoes. How we know that mosquitoes spread malaria. The malaria test. The Stegomyia spreads yellow fever. How to get rid of the mosquito. Other insects that spread disease. Health Problems.

Pure Water.

The bacteria found in water. Bacteria spread disease. How water may be purified.

Pure Milk.

Impure milk causes disease. Only a healthy, well-cared for cow gives good milk. Clean methods of milking are necessary. Milk should be kept cool. Certified milk. Pasteurized milk. Health Problems.

Pure Food.

Adulteration of foods. Harmful coloring matter used in foods. Harmful preservatives used in foods. Careless handling often makes food impure. Health Problems.

Wasting Health and Money.

The smoker is a nuisance to others. Tobacco poisons the smoker. Laws against smoking. The lesson China learned. Health Problems.

Enemy of Health and Happiness.

Alcohol injures the health. Makes unhappy homes. Makes paupers and criminals. Helps to fill insane asylums. Bad accidents caused by alcohol. The fight against alcohol. Health Problems.

Work and Health.

Occupations that are injurious. Health in outdoor work. Indoor work made healthful. Conditions that are not healthful. Child labor in mines and factories. Health Problems.

Common Accidents.

How to make a wound stop bleeding. How to treat burns. Fourth of July accidents. To remove a splinter. The treatment of a person who has fainted. When something lodges in the throat, eye, or nose. Bruises. Bites and stings. Health Problems.

HYGIENE.

GRADE VI.

The Value of a Life.

Human vitality, the life and health of the people, is a highly important national asset. The conservation of health means increased prosperity and happiness; the ability to do more work and to do it better. The economic value of health. Needless loss of time and money through preventable sickness.

The commercial value of a human life. Value of a man to his community and to the nation is determined by what he can do; and his output of work, physical or mental, depends very much upon the condition of his health. "Minor ailments" prevent perfect health.

The duty of those who can work. Three classes of people whose hands are not able to feed them. Those who can work must feed not themselves only, but those who can not feed themselves. The necessity for increasing the length of the period of work.

The "ruling powers" and the "servant classes" of the body. Amount and quality of the work that the "master tissues" are able to

accomplish depends very much upon the way in which they are aided by these "servant classes." Brain work and muscular work. Keeping up vital resistance. Example of right living.

The Benefits of Exercise.

The power of a nation very largely depends upon the physical fitness of its individual citizens. Olympic games. Effects of exercise on the muscles. Enough exercise should be taken daily to keep the muscles strong and flexible. But it is not necessary, nor even desirable to develop the muscles until they become very massive and hard.

Effects of exercise on the joints and ligaments. Spine needs exercise in order to keep it flexible. General benefits of exercise; strengthens and develops the muscles; strengthens the heart and improves the circulation of the blood; strengthens the lungs and increases the vital capacity; the skin is exercised; effect on digestion is marked; nerves are benefited; mind and character are influenced.

Health and Symmetry.

Exercise should be enjoyable in order to be of greatest benefit. Kinds of work that give healthful exercise to girls and boys. The best forms of exercise. Estimating the amount of work done in exercise. Taking exercise in one's room. The best time to exercise. How certain kinds of work cause a one-sided development of the body. What should be done to insure symmetrical development of the muscles? Corrective exercises. Health Problems.

Food and Efficiency.

Uses of food. The building material of the body. The fuel foods. The original source of food. The amount of food needed. The selection of food. Natural foods. Values of raw foods. Benefits from cooking food. Health Problems.

How the Body is Governed.

The chief organ of the body, the brain. The "centers" in the brain. The seat of the mental faculties. Action and reaction. Habits. The influence of the mind on the muscles. Effects of nerve fatigue on the muscles. Effects of nerve fatigue on the brain. Health Problems.

The Mental Faculties.

Attention and interest. Mental activity, a safeguard. Effect of thinking on the brain. Good nerves and brain depend upon good blood. The effect of emotions upon the body. Health Problems.

Deceiving the Nerves and the Mind.

Effect of alcohol upon efficiency of the body. Lessening courage, ambition, and working power. Lessens working capacity. How alcohol affects the judgment. Some conclusive experiments. Effect of alcohol on marksmanship. Loss of time through sickness caused by alcohol. Health Problems.

Handicaps in the Race of Life.

Effect of use of tobacco. A stone tied to one's neck. Overtaxing the heart. Unsteady nerves, and dull senses. Worst effect of all. Unsuspected handicap. Mischief may come from small doses. Caffein is a violent brain stimulant. A deadly enemy of the nerves and the mind. Avoid patent medicines. Health Problems.

How the Body Renews Itself.

Keeping "in good repair." Sleep for body building. Changes in the circulation during sleep. Dullness due to tiredness. Things that prevent sleep. Bedlam in our cities. Preventing noise. The effect of drugs on sleep. Health Problems.

Germ Plagues.

Minute forms of life. The work of microbes. Microbes produce disease. The germ of tuberculosis. The nature of tuberculosis. The extent of tuberculosis. The spread of tuberculosis. Killing germs of tuberculosis. Other means of preventing tuberculosis. Health Problems.

Safety First.

Safety First rules for health. General directions. Rules of health in tuberculosis.

The work of Grades IV, V, and VI in Hygiene is based on the O'Shea-Kellogg Health Series.

JUNIOR HIGH SCHOOL.

Hygiene and Sanitation.

Based on Ritchie's Primer of Hygiene and Sanitation.

We are awakening to the fact that we must preserve our health and build up the strength and resistance of our bodies, if we are to live useful and happy lives. There is no happiness where there is no health; and life without happiness is, at best, but a bare, tragical existence.

Personal hygiene and community sanitation are receiving much more attention just now than they ever did before at any time. Cities throughout the civilized world are alive to the necessity of obtaining pure water and unadulterated foods. Everywhere strict rules and quarantine are being enforced, streets are being kept clean, garbage removed, and sewage disposed of. The fight against disease is no longer an individual affair. One's personal health is only partially under his own control. His eating, drinking, sleeping, breathing, and handling of his own body are about all of the important things he is directly responsible for. The great things that make for health are community or governmental problems.

OUTLINE.

—7B—

Based on Ritchie's Primer of Sanitation and Physiology—
World Book Co.,

Lesson I.

Talk to the pupils about their health today, yours, their folks' and our community's.

Lesson II.

- a. The Possibilities of Good Health (pp. 213-2; 8,446-454).
 1. Good health is the natural normal state. Emphasize this throughout the course.
 2. See note, p. 219. Also p. 227.

Lesson III.

The Human Body and its Cells.

- a. Laboratory work, pp. 226-227.
- b. Animal and plant cells.

Lesson IV.

Why the Study of Disease Germs is important.

- a. Bacterial culture, (Bergey's Foundations of Botany, pp. 237-239).

Lesson V.

Disease Germs and How they Get into the Body.

Lesson VI.

The struggle between the Body and the Germs.

Note:—At the end of every chapter in the Primer of Sanitation are points to be remembered. Not only are they to be remembered, but practiced until they become life habits.

Lesson VII.

Bacteria.

- a. Report on experiment assigned in Lesson IV above.
- b. The Skin and Bacteria.
- c. The Pus-forming Bacteria.
- d. Tetanus (lockjaw).

Lesson VIII.

The Lungs and Respiration.

- a. Anatomy of the Lungs.
 1. Experiments 110 and 111, p. 214 Blaisdell's Practical Physiology.
- b. Physiology.
 1. Experiments 115 and 120, Blaisdell's Practical Physiology.
- c. Hygiene.
 1. Chapters IX, p. 33; and VI, p. 265.
 2. Note "Suggestions," p. 271.

Lesson IX.

Ventilation.

Experiments. (See reference books) also p. 281.

Lesson X.

Diphtheria. Emphasize the preventive and avoidance measures of every disease listed in the course, each under its proper head.

t. Dr. E. Jenner and Louis Pasteur.

- a. Antitoxin and vaccine. b. Ask our school physician to give us an untechnical talk at our General Exercises.
- c. Hutchinson: "Community Hygiene."

Lesson XI.

Pneumonia.

Lesson XII.

- a. Tuberculosis.
- b. Consumption:
 1. How to prevent.
 2. Treatment of; open air schools; Sanitoria, etc.

Lesson XIV.

- a. Dust and Germ Diseases.
- b. What preparation to use in sweeping floors of public buildings. (P. 73, footnote.)

Lesson XV.

- a. The Alimentary Canal.
 1. The Anatomy of the Intestines.
 2. Diseases of the Intestines.
 - a. Typhoid Fever (Chapters XVII and XX).
 - b. Diseases caused by Relatives of the Typhoid Germ.
 - c. Diarrhea and Intestinal Pains.
 - d. Intestinal Worms. (See p. 135 and Lesson XXI.)

Lesson XVI.

- a. The Need of an Abundance of Pure Water.
- b. Chapter XX, and Chapter XXIII of Woods Hutchinson's Community Hygiene.
- c. Test for pure water. Also for clean milk.

Lesson XVII.

- a. Other Bacterial Diseases:
 1. Meningitis; Bubonic Plague.
 2. Sore Eyes—simple preventives and cure.
 3. Rheumatism; Cholera.
 4. Leprosy; Mumps.
- b. Bacterial Diseases of Plants and Animals.

Lesson XVIII.

- a. Protozoa. (Fuller treatment in Lesson XX.)
- b. Mosquitoes (Chapter XXIV) and
 1. Malarial fever, and

2. Yellow fever.
- c. Tell about Drs. Walter Reed and Ross and Surgeon General Gorgas.

Lesson XIX.

- a. Smallpox.
 1. Review "Lesson X".
 2. Efficiency of Vaccination.
 3. Points to remember, page 177.

Lesson XX.

- a. Other Protozoan Diseases.
 1. Hydrophobia.
 2. Chronic Dysentery.
 3. Measles, Chicken Pox.
 4. Scarlet Fever.

Lesson XXI.

- a. Intestinal Worms.
 1. Tapeworms.
 2. Hookworms.

Lessons XXII.

- a. Importance of Sanitation:
 1. Ask President of Board of Health to give the class or the school at a General Exercise a talk on the above.
- b. What is our city doing now about sanitation?
- c. Public sanitation (p. 171, Chapter 33).

Lesson XXIII.

- a. The Housefly.
- b. The Rat and Mouse (Hutchinson's Community Hygiene, pp. 230-232).
- c. Cats and Tramps (Hutchinson's Community Hygiene, pp. 247).

Lesson XXIV.

- a. Disinfection:
 1. Physical agents.
 2. Chemical.
 3. Efficient up-to-date methods of. (Ask our school physician to give us a talk at General Exercises.)
 4. If possible, give the pupils a chance to apply their knowledge.

Lesson XXV.

- a. Unhygienic Habits.
 1. Make a strong attempt to get the children to break themselves of the bad habits discussed on pp. 164-170.

2. Safety First:—

- a. Ask Safety First Society for a General Exercise talk.
- b. See pp. 226-271, Hutchinson's Community Hygiene.

—7A—

Lesson I.

Form your class into a Junior High School Health Society. Elect a President and a Secretary. The President should appoint the following committees:

- a. Committee of three (3) on Playground Cleanliness.
- b. Committee of three (3) on Basement Tidiness.
- c. Committee of three (3) on Room, Hall and Stairway Cleanliness.
- d. Committee of one (1) on Room Ventilation.

Each committee to serve one month. The President and Secretary to serve two and a half months.

It is the duty of every member of the committees 1, 2, or 3 to report offenders against cleanliness to the President of the Health Society, who will kindly try to enlist the offender for team-work in making our school second to none in tidiness in our great state. Should the President fail to win over the offender against cleanliness, it is his duty to call a meeting of the Society, during a recitation period (the teacher being an active member of the Society), and put the matter up to the class.

Lesson II.

- a. The Framework of the Body.
- b. The Skeleton.
 1. Show the skeleton and teach the names of the principal bones.
 2. Structure of bone.
 - a. Show parts of long bone and assign experiments on p. 237 and Experiments 3 and 4 on p. 23 of Blaisdell's Practical Physiology.
 3. Lead the children in working out four or five uses of the skeleton.

Lesson III.

- a. Joints.
 1. Get one at the meat market. Explain structure, movement, and strength.
 2. Name and locate the different kinds.
 3. Discuss: a. Dislocation and treatment; b, Sprains and their treatment; c. Broken bones and first aid.
- b. Problem: What ought each pupil do about his bones and joints now? Answer fully and carefully and then set about doing it.

Lesson IV.

- a. The Muscles and Carriage of the Body.
 - 1. Experiments 17 and 18, pp. 59 and 60 (Blaisdell).
 - 2. Discussion, pp. 238-250. Pay particular attention to Suggestion on p. 250.
- b. "Exercise is the price of health." Prove this statement, and then set about studying the effect of exercise upon—
 - 1. Muscles; 2. Important organs; 3. Personal appearance.
- c. Effect of unsuitable or excessive exercise. Give some examples you know of.
- d. Value of Play. Discuss in particular—
 - 1. Walking, running, jumping, skating, swimming, rowing, bicycling, and other outdoor games.
- f. Physical Exercises in School and Athletics.
 - 1. Ask some authority to give us a talk on these at the General Exercises. See our reference books also.
 - 2. Practical points about physical exercises. (See Blaisdell, pp. 94 and 95.)

Lesson V.

- a. The Heart and the Circulation of the Blood.
- b. Emphasize the anatomy, physiology, and hygiene of the heart, but do little with the circulation.
- c. Explain the heart by means of the model we have.

Lesson VI.

- a. Adenoids and Colds.
 - 1. Show the class an adenoid.
 - 2. Why should they be removed? (See Suggestions p. 294.)
 - 3. Discuss pp. 282-294.

Lesson VII.

- a. The Skin.
 - 1. Its structure.
 - 2. Its functions.
 - 3. Baths and bathing. Swimming pools.
 - 4. Clothes and clothing. (See p. 256, Blaisdell, for miscellaneous hints.) Our textbook, pp. 295-302.
 - 5. The hair:
 - a. Its proper care.
 - 6. The nails:
 - a. How to prevent ingrowing nails.
 - b. How to cure ingrowing nails.

Lesson VIII.

- a. The Nervous System.
 - 1. Show our charts and explain them.
 - 2. Show the model of the brain and explain it.
 - 3. Discuss pages 303-313.

4. Give special lesson to Acquired Reflexes and Education, and one to Habits.
5. Emphasize the care of the nervous system. See pp. 314-320. Also Wiley, pp. 432-446.

Lesson IX.

- a. The Eyes.
 1. Explain the structure of the eye by using our model for illustrative purposes.
 2. Discuss pages 321-333, emphasize 327-332.

Lesson X.

- a. The Ear.
 1. Show and explain the model of the ear.
 2. Discuss pages 334-337; emphasize pp. 338-339; pp. 414-417 (Wiley); pp. 337-338, Book III (Conn).

Lesson XI.

- a. The Organs of Touch, Taste and Smell.

Lesson XII.

- a. Foods and why we Need Them (pages 347-356). This is Chapter XV of Primer of Physiology and it, with Chapters Chapters XVI, XVII, XVIII, deal with the food question and the organs that are involved. The chapters are very good and may be richly supplemented from our reference books, especially Wiley's Health Reader, and Conn's Physiology and Health, Book II.
- b. Experiments.
 1. Experiment with the Proteids:
 - a. Numbers 31-34, p. 116, Blaisdell.
 2. With Starch:
 - a. Numbers 35, 36-38, 39-40, 41, pp. 116-117, Blaisdell.
 3. With Milk:
 - a. Numbers 44-46, 47-48, 49, 51-52, p. 118, Blaisdell.
 4. With Sugar:
 - a. Numbers 53, 54 (same reference as "c").
 5. Digestion Experiments:
 - a. Numbers 56-57, p. 127, Blaisdell.
 - b| Numbers 58-59, p. 133, Blaisdell.
 - c. Numbers 60, 61, p. 142, Blaisdell.
 6. Absorption:
 - a. Experiment 15, Bergen's Elements of Botany, p. 35.
 - b. Discuss the absorption of liquids by root-hairs and lining membranes of stomach and intestines.
 7. Additional Experiment (see pp. 167-168, Blaisdell).
 - a. Experiments 76, 77, 80, 83 and 84.
 8. Pay particular attention to Suggestions offered on p. 33. Also to proper chewing of foods. If there is anything in

this course worth teaching and worth dwelling upon until it becomes a grounded habit in the children, it is this habit.

9. Emphasize the necessity of a varied diet, the time to eat, the amount of food needed, and table manner. Also, good cooking. How to cook will be given in the Domestic Science Course.

Lesson XIII.

The Teeth.

- a. Show skull with teeth.
- b. Have a pupil to imbed a tooth in sealing-wax on top of a spool, and then grind or file down to show inside structure.
- c. In addition to pp. 394-408, discuss their structure; emphasize Suggestions, p. 408.

Lesson XIV.

Tobacco and Alcohol.

- a. Two very important and very difficult subjects to teach. Read the latest reliable reports of investigations made.
- b. Emphasize the facts known. Also Suggestion on p. 420.

Lesson XV.

Accidents.

- a. What to do till the doctor comes.
- b. Teach how to apply bandages.
- c. See Suggestions, p. 444, especially the first two sentences.

Lesson XVI.

- a. Public Sanitation, pp. 171-176.
- b. Duties of Governments as to Sanitation, pp. 177-186.

Lesson XVII.

- a. Practical Sanitation.
- b. A new kind of disease germ.
 1. Infantile Paralysis.
 2. Trachoma.

Lesson XVIII.

New Discoveries in Regard to Germ Diseases.

Lesson XIX.

- a. By practicing the lesson you have learned on this course, so that you will grow up to be strong healthy citizens.
- b. You have learned what healthful conditions are. You have learned this at public expense, and—as a loyal progressive citizen—you owe it to the community to do your part to help make our city as attractive and healthful as possible.
- c. Read pp. 276-289, Hutchinson's Community Hygiene.

Lesson XX.

Let us organize our classes into Belleville Junior High School Health Clubs. The aims and work will be explained to them in class.

LABORATORY MATERIAL AND REFERENCE BOOKS.

1. Fischer's:—Report on National Vitality, its Wastes and Conservation (Secretary of Committee of 100 on National Health, 105 East 22nd Street, New York City).

2. Ritchie, Jno. W.—The Adventures of the Starch Family (The World Book Company, Yonkers, New York, will furnish a copy free).

3. Fischer and Fisk:—How to Live (Funk and Wagnalls), authorized by the Hygienic Reference Board of the Life Extension Institute and recommended by J. W. Ritchie.

4. Reports of the Boards of Health—State and City.

5. Metropolitan Life Insurance Company's Pamphlets on Preventable Diseases.

6. Hutchinson's:—Community Hygiene.

Wiley's:—Health Reader.

8. Conn:—Physiology and Health, Book II.

9. Conn and Budington:—Advanced Physiology and Hygiene.

10. Hough and Sedgwick:—The Human Mechanism, Part II, pp. 291-540.

11. Peabody, J. E.:—Laboratory Exercises in Anatomy and Physiology.

12. Eddy, W. H.:—Experimental Physiology and Anatomy.

13. Blaisdell:—Practical Physiology.

14. Colton:—Physiology, Briefer Course.

15. Colton:—Practical Physiology.

16. Government Bulletins.

DRAWING.

KINDERGARTEN.

1. Drawing with crayola and chalk.

a. Products of garden, field and wood.

b. Illustrate stories and rhymes.

c. Decorate cutting.

2. Cutting:

a. Freehand, circles, animals, etc.

b. On line, napkins, doilies, rugs, for houses built of blocks.

c. Paper dolls.

3. Color. Teach with beads and balls and things children wear.

a. Work out simple patterns with beads, seeds and leaves.

b. Designs for rugs, etc.

c. Decorate paper doll dresses.

4. Simple landscape, sky and grass.
5. Clay:
 - a. Cakes and pies.
 - b. Products of garden; spherical forms.
 - c. Kitchen utensils.
6. Paper folding. Simple folding, requiring no cutting.
7. Weaving. Slates and oileloth.

GRADE I.

1. Drawing with crayola and chalk.
 - a. Incidents and stories from imagination and memory.
Farm life. Make a farm book.
 - b. Flowers, vegetables, products of farm and garden.
 - c. Animals, four forms, and two bird forms from memory.
The human figure in different positions using action lines.
 - d. Landscape. Sky, grass, background.
2. Color. Rainbow dolls. Stained glass. Recognition of six chief colors.
3. Cutting:
 - a. Freehand. Circles, squares, animals.
 - b. On line. Same.
 - c. Dolls. Farm implements. Toys.
4. Folding. Boxes. Booklets. Work based on the 16 folded squares.
5. Weaving. Slats and oileloth. Paper weaving. Simple designs.
6. Clay. Animals on farm. Fruits. Vegetables.
7. Design. Simple rhythmic arrangements. Borders.
8. Construction of simple houses, barns, fences, etc., for use on sand table in connection with history work.

GRADE II.

1. Illustrating with chalk, crayola and pencil, stories, poems, Indian and Eskimo life, weapons, homes, toys, etc.
2. Human figure, action lines.
3. Animal and bird forms. Review work of Grade I and add add two more of each.
4. Landscape in more detail. Spring, fall and winter types.
5. Indian and Eskimo landscape.
5. Two tree shapes from memory.
6. Rhythmic arrangement.
 - a. Print all letters of alphabet using straight lined letters
 - b. Invent decorative units.
 - c. Correct mounting, margins; spaces pleasing.
7. Cutting, weaving, etc., for special days: Thanksgiving, Christmas, New Year, Valentine Day, Washington's Birthday, Easter, April, May Day, Arbor Day, Decoration Day.

8. Clay. Work based on history and nature study.
9. Booklets. Indian and Eskimo. Plants. Animals.

GRADE III.

1. Typical landscapes of Japan, Holland, the Desert, Mountain and tree forms.
2. Illustration of stories, poems, compositions.
3. Human figure to express different actions.
4. Add to list of bird and animal forms—see 1st and 2nd grade work.
5. Two more tree forms. Ability to recognize and draw at least five leaf forms.
6. Booklets of Japan, Holland, the Desert, Leaves, Trees, Belleville, Homes, Conveyances. "Keep Clean," etc.
7. Design. Rhythmic arrangement of units, spaces. Print letters of alphabet various sizes.
8. Paper construction work for use on sand table for special occasions.

GRADES IV, V AND VI.

The work of drawing should be of the free self expressive type. Opportunity for development of this type of work should be furnished in illustrations of poems and stories, events in history, life forms and apparatus in experiments in general science, landscapes in geography, and local interests and activities.

Motivation is offered in abundance and variety of work in construction.

GRADE IV.

For object drawing use studies from nature with pencil and water colors as mediums.

Nature studies; grasses, weeds, fruits, flowers, plants, trees and foliage.

Illustrative drawings in pencil and water colors. Simple landscape in light and dark tones; in color. Studies based on stories and events from subject matter in this grade.

Construction. Pocket for report card. Booklet for study of general science, history, language, etc. Booklet in connection with holidays. Folder for drawings, compositions.

Plan appropriate designs for covers for booklets and folders.

GRADE V.

Studies from nature in pencil and colors. Use flowers, foliage, plants, trees, fruits, and vegetables. Study for truth as to facts in growth, general shape, relation and size of parts.

For illustrative drawing use scenes from literature and other subject matter of the grade; landscape work from nature. In land-

scape work give attention to relative sizes and distances; principal and subordinate masses.

Construction. Pocket for report card. Folder for drawings, compositions. Booklet for poems, memory gems, study of history, general science, etc. Booklet in connection with holidays.

Plan appropriate designs for covers of booklets and folders.

GRADE VI.

Studies in pencil and color on flowers, fruits, vegetables, plants, trees and foliage. Give attention to growth, shape, relation and size of parts.

Use scenes from literature and other subject matter for illustrative work. Landscape work in pencil and color. Give attention to placing of objects in relation to foreground, middle distance, distance; principal and subordinate masses.

Construction. Pocket for report card., Booklet for poems memory gems, study of general science, language, history, etc. Booklet in connection with holidays.

Posters—Lettering mottoes, etc.

Plan appropriate designs for covers of booklets and folders.

JUNIOR HIGH SCHOOL.

Art and Design.

Everyone who turns out a fine product is an artist, be the product a ditch with straight smooth walls; spotlessly clean, dry dishes; or a statue of Liberty, or a Madonna. This thought is an invaluable ideal for the teacher and the children, and one that the teacher should do all in her power to fix in the minds of the children. Good work is artistic and gives the workman pleasure; ordinary work and poor work are inartistic, and are anything but pleasurable.

The aesthetic side of every subject is worthy of careful consideration, for the present age is one which desires things beautiful. For this reason the child is to be brought to realize that the beautiful really exists. He must be led to appreciate the beauty of nature, by studying plants, animals, and landscapes. It was the father of Millet who gave him his first lesson in art by calling his attention to the wonders and beauties in the growth of plants, and to the beautiful in sunsets.

Art can be made practical by taking it directly into everyday life. The home should not only be comfortable and attractive, but every object in the home may be an expression of good taste, possessing simplicity, harmony, and beauty. It was Raphael's home environment that gave him impressions of a true art when he was but a child.

The girl who sees the beauty in a flower may sketch it. Then a motive which serves as a unit for border or other design, may be taken from the leaf, flower, bud, or seed-pod. The unit in turn may

be used as a stencil for ornamenting objects made in the class or in the home, where it may serve as a design for a table-runner, pin cushion, curtains, or pillow tops.

Then follows the use of color in design, the ability to make pleasing combinations.

The boy who has learned to letter well, finds it a very useful accomplishment. In school there are always events of interest to be posted in the halls and offices, or printing to be done as class work. At home there are packages to be addressed, labels to be printed, or invitations to be made. For such purposes neatly drawn and carefully spaced letters are better than writing. They are more easily read and have a decorative quality. What better motive can we give a child than to make drawing and art practical—a part of his everyday life?

Do everything in your power to develop in the children an artistic consciousness. No work is to be done without there is a proper incentive for doing it. Drawing, designing, or the making of any bit of work must not be done just to be doing something.

Say little about “perspective” and the “vanishing point”. Get the pupils into the habit of constantly asking themselves: Does it look right?

Study the lives of Millet and Corot. Pupils of this grade should be familiar with the people of the fields of the former and the landscape of the latter. They should have, also, a living interest in the work of our best American painters. Even caricature should not be tabooed.

A few good points on Presentation of a Drawing Lesson are given on page 315 of Rapeer’s Teaching Elementary School Subjects

OUTLINE OF COURSE IN ART AND DESIGN.

—7B—

1. Plant study in pencil.
 - a. Petunia, Brown-eyed Susan, Knotweed, crab grass, Cucumber, Apple. After sufficient drill draw some of these forms from memory.
 - b. Autumn leaves in color.
 - c. Make a motive from one of the plant forms for decoration for future use.
2. Lettering—Alphabet and Arabic numerals. Enough drill should be given to enable children to do freehand lettering.
3. Construction and decoration. Construct large paper pocket. Use decorative design of plant motive and letter the project.
4. Landscape work in connection with geography and other subjects.
5. Thanksgiving problem. Booklet with designs taken from previous work.

6. Stencil patterns—Design and make a stencil pattern for future use. Make simple cross-stitch patterns. Christmas problem, applying one of the patterns. Projects; waste basket, table-runner, pin cushion, fancy bag, handkerchief case
7. Drawing of selected objects to show general structure.
 - a. Fore-shortened circle above and below the eye.
 - b. Rectangular objects above and below the eye. Cube, box, book, basket.
 - c. Curvilinear objects.
 - d. Objects with spouts and handles. Discuss and illustrate the principle of perspective.
8. Color study:
 - a. Color scale.
 - b. A color scale of red family—violet red, red, orange red. Teach each color in a similar way.
9. Easter problems. Easter booklet with design and lettering in color.
10. Study of animal forms—dog, cat, horse, chicken, cabbage butterfly.
11. Represent human beings in action using skeleton lines.

—7A—

1. Plant study in pencil.
 - a. Morning Glory, Gaillardia, a common grass, cocksfoot, pepper, pear. Some of the forms should be drawn from memory.
 - b. Autumn leaves in color.
 - c. Make a motive from one of the plant forms for decoration for future use.
2. Lettering—Alphabet and Arabic numerals. Drill should lead to freehand lettering.
3. Construction and Decoration. Construct large paper pocket. Use decorative design and letter the project.
4. Landscape work. Study good types of landscapes in class. Sketch landscapes in connection with other subjects.
5. Thanksgiving problem. Booklet with appropriate design and letters.
6. Stencil patterns—Design and make a stencil pattern for future use. Make cross-stitch and beading patterns. Christmas problems. Apply one of the patterns. Stencil pattern on crash, table-runner, waste basket, pin cushion, or pillow top, fancy bag, handkerchief case.
7. Object drawing—Rectangular solids.
 - a. The cube, box, book, basket.
 - b. The cylinder, cone.
 - c. Objects with spouts and handles.Review the principle of perspective.

8. Easter problem. Easter card in color, with lettering.
 9. Color study—Color scales.
 10. Study of animal forms—cow, goat, goose or duck, canary, wasp. Learn to draw some from memory.
 11. a. Represent human beings in action, using skeleton lines.
b. Groups of persons in action.
- In both classes encourage pupils to collect materials suitable for our work, and for exhibition purposes; such as reproductions of good pictures, post cards, photographs, sketches, and designs and clipping from art magazines.
- Encourage and direct children to read books and magazines on Art.

Reference Books and Illustrative Material.

- a.
 1. How to Judge a Picture—Van Dyke.
 2. How to Enjoy a Picture—Emery.
 3. How to Interpret a Picture—Sawel.
 4. Principles of Home Decoration—Wheeler.
 5. Talks on Drawing, Painting, Making and Decorating—Colby.
 6. Legends of the Madonna—Jameson.
 7. How to Study Pictures—Caffin.
 8. How to Study Pictures of Children—Hurl.
 9. Art Lovers' Treasury—Thompson.
 10. Applied Drawing—Brown.
 - b. Juvenile Books.
 1. The Art-Literature Readers—Atkinson, Mentzer & Grover.
 2. The Little Louvre; or the Boys' and Girls' Gallery of Pictures.
 3. Text Book of Art Education.
 - c. Magazines.
 1. The International Studio.
 2. The Art World.
 3. Art and Archaeology.
 - d. Prints in Greek and Roman Sculpture.
- Most of the above named material can be found in the Belleville Public Library.

GAMES AND RHYTHMIC EXERCISES.

KINDERGARTEN, GRADES 1, 2, AND 3.

Pop Goes the Weasel.

“A penny for a spool of thread,
A penny for a needle,
That’s the way the money goes,
Pop goes the weasel.”

Form circle not taking hands. One child, the weasel, goes inside and skips during singing of song. The rest clap on word **pop**. The weasel then selects another and the two skip together during singing. On **pop** they select another. The three join hands, skip in a circle, and on **pop** the third one in passes under arch made by the other two. This one is then the first weasel for another game.

Two or more weasels may start together if the group is large.

Suggestions for Rhythmic Exercises.

1. March forward 8 steps.
2. Clap 8 times.
3. Skip 8 counts.
4. Clap 8 times.
5. Turn around and skip 8 in opposite direction.
6. Clap 8 times.
7. Walk backward 8 steps.
8. On toes 8 steps.
9. Clap 8 times.
10. Stamp 8 times.

Bohemian Children’s Polka.

1. Dance a little partner, dance a little partner
2. And then stand still.
3. Dance a little partner, dance a little partner
4. And then stand still.
5. Turn around now
6. And make your bow.

Line 1. Take partner’s hands and skip to right (of outside partner).

Line 2. Stand still.

Line 3. Skip to left.

Line 5. Turn partner around.

Line 6. Bow to partner.

Inner players step to left for new partners.

Sallie Go Round the Stars.

“Sally go round the stars,
Sallie go round the moon,
Sally go round the chimney pots
On a Sunday afternoon.”

Hold hands forming a circle. Skip to right. At close of rhyme jump and say **whoop**. Same to left.

Now With Your Hands.

“Now with your hands go clap, clap, clap,
Now with your feet go tap, tap, tap,
Now have a care my partner there
Or in our fun you'll have no share.”

Walk forward with partners while singing first two lines, clap three times, line one; tap three times with foot on line two. Turn and face partner on line three shaking right and left finger. Turn partner rapidly on last line.

Danish Dance of Greeting.

“Clap and bow, clap and bow,
Tramp, tramp, turn around now,
Clap and bow, clap and bow,
Tramp, tramp, turn around now.”

Partners clap and bow to each other, and then turn and clap and bow to the one on the other side. Tramp right, then left, then turn around. Repeat. Then clasp hands and run to right sixteen steps, turn, and run to left sixteen steps.

Open the Gates.

“We'll open the gates as high as the sky
And let King George and his men pass by.”
Repeat.

All take hands and walk around in a circle during singing of above. Then the **gates** hold up hands, and King George (the first one next to the gates) starts running through, holding hands, all singing same two lines **faster**. When all are through King George and next one are the gates.

The Thread Follows the Needle.

a. Children stand in two lines of not more than 8 each. One line is **goods**, the other line **needle and thread**. The players in the **goods** line stand one behind another, well spaced. The **needle and thread** players take hands and wind in and out of the other line. Then the needle and thread line becomes **goods**, and the **goods** line become

needle and thread and repeats the sewing in and out. When this is done all players take hands and circle around singing, and jump up on last note.

Play the game walking at first. Try running after the game has been learned.

b. **The Thread Follows the Needle.**

“The thread follows the needle,
The thread follows the needle,
In and out the needle goes
As mother mends the children’s clothes.”

The children form in a line holding hands. The last one in line starts the game walking under arms of the first two, the line following. The first two face in opposite direction as the line passes under, and as they keep hands joined, they stand with arms crossed across the chest forming a chain stitch with their crossed arms. The line continues around and the next time passes between numbers two and three. Continue until all the players are turned in opposite direction. At a signal, children turn under arms unravelling the chain, and the game may repeat.

The Muffin Man.

1. “O do you know the muffin man, the muffin man, the muffin man,
2. O do you know the muffin man that lives in Drury Lane?
3. O yes I know the muffin man, the muffin man, the muffin man,
4. O yes I know the muffin man that lives in Drury Lane.
5. Two of us know the etc.

Repeat O do you know

O yes I know—

Then, Four of us know—

Repeat until Eight of us know.

Then, All of us know.

Form a circle not holding hands. Singing line 1, the leader skips up to one in circle and does some simple exercise as, a balance step, a clap, or other simple thing continuing it during line 2. The one who is addressed, singing lines 3 and 4 does what leader does, and on lines 5 and 6 both skip around. On the repeat each one stands in front of another and goes through same procedure. Then the four do same. When there are eight, they sing “All of us know—” as they circle together, and then go back to places.

Looby Loo.

1. Here we go Looby Loo,
2. Here we go Looby Light,
3. Here we go Looby Loo
4. All on a Saturday night. Whoop!

I put my right hand in,
I put my right hand out,
I give my right hand a shake, shake, shake,
And turn myself about.
(Left hand; two hands; right foot; left foot;
whole self.)

Form a circle and walk to right singing song—first four lines. Stoop and **whoop** at the word whoop. Put right hand in, out, shake it, and turn around as words indicate. Repeat whole thing, taking left hand next, then both hands, and so on.

I Went to Visit a Friend One Day.

1. I went to visit a friend one day,
2. She only lived across the way,
3. She said she couldn't come out to play,
4. Because it was her washing day.

Play the game rather informally. All walk up to center on lines 1 and 2, shaking finger on 2. Shake head on line 3 and imitate washing on line 4. Go back to places playing **washing** during remainder of song. **Ironing, sweeping** and such things may be played, ending the game by singing this:

"I went to visit a friend one day,
She only lived across the way.
She said she could come out to play
Because it was her playing day.
This is the way she played away,
This is the way she played away.
She said she could come out to play
Because it was her playing day!

Decide on what the play is to be and act that out.

Adopt above to a Santa Claus Game.

"I went to visit old Santa one day,
He lived so very far away.
He said we might come in and play
With all the toys he made that day.
This is the way we played away,
This the way we played away.
He said we might come in and play
With all the toys he made that day.

(Have children divide—two sides. One side acts out one toy, the other, another.)

My Dolly.

"This is the way my dolly walks,
This is the way she walks you see.

Repeat.

This is the way my dolly runs,
This is the way she runs you see.

Repeat.

This is the way my doll can dance,
This is the way to dance you see.

Repeat.

This is the way my dolly talks,
This is the way she talks you see,
Ma-ma-ma-ma-ma.

I'm Very, Very Tall.

"I'm very, very tall,
I'm very, very small,
Sometimes tall, sometimes small,
Guess which I am now!"

Children stand in circle, with one in center who covers eyes. Some one in the circle tells which they are to be—tall or small—at the end of the game. As they sing "I'm very, very tall", they all stretch up as high as they can. When singing, "I'm very, very small", they make themselves as tiny as possible. They stretch up again as they sing slowly—"sometimes tall", and down with "sometimes small." After a very short pause while the one named at the beginning of the games give the signal for them all to be either tall or small, they sing quickly, "Guess which I am now!"

One Little, Two Little.

One little, two little, three little children,
Four little, five little, six little children,
Seven little, eight little, nine little children,
ten little boys and girls.
All join hands and skip together.
All join hands and skip together
Ten little boys and girls.
Ten little, nine little, eight little children,
Seven little, six little, five little children,
Four little, three little, two little children,
One little child goes home.

Children form circle. A leader stands in center and points to those he wants to come in as all sing one little, two, etc. Then the ten take hands and circle, skipping as they sing "All join hands!" Then leader points out those who are to go home as all sing, "Ten

little, nine," etc. The leader must be sure to get only nine **besides** himself into the inner circle, or there will be more than enough to go home. Play it faster as children become more skilled in it.

Our Shoes are Made of Leather.

"Our shoes are made of leather,
Our stockings are made of silk,
Our pinafores of calico
As white as any milk.
Here we go around and around,
Here we go around and around,
Till our frocks all touch the ground."

A Hunting We Will Go.

"O, a hunting we will go,
A hunting we will go,
We'll catch a little fox
And put him in a box,
And then we'll let him go."

Something like Virginia Reel. First couple clasp **right** hands and skip down between lines and back again, then leads off skipping and all other couples follow. Leaders stop and form an arch, all others pass under, and then the next couple starts all over again.

Harvest Dance.

Face partners in a circle.

1. Three stamps,
2. Three claps,
3. Turn to right (turn around) 8 steps.
4. Three stamps,
5. Three claps,
6. Turn to left—8 steps.
7. Take hands of partner and glide 16 right.
8. Same left.

To "Irish Washwoman."

Four couple arranged this way:

	aa	
		b
b		
b		
		b
	a	a

All have hands on hips.

1. The a's skip toward each other one couple between the other. Turn and skip back—8 counts each way.
2. The b's do same.

3. The a's skip toward each other, take hands and skip in circle, and back to places in 8 counts.

4. The b's do same.

5. All join hands and skip in circle dropping away from circle and out of game by the time music ends.

Hey, Little Lassie.

1. "Hey, little lassie, will you have me?
2. Here's gloves to wear if you will have me.
3. I'm from the east, you're from the west,
4. I've wooden shoes, you've leather shoes.
7. Pull in different ways will we
6. As those who don't agree.
7. Pull in different ways will we
8. This I do see.

Partners face each other in a circle.

Line 1. Hands on hip, bow.

Line 2. Extend hands toward partner.

Line 3. Turn slightly extending right arm for east; same, left arm for west.

Line 4. Extend right foot, bringing it down hard on first "foot"; same left except that toe points quietly.

Line 5. Take partner's right hand and pull arms alternately.

Line 6. Skip around to right.

Line 7. Same as Line 5.

Line 8. Drop hands, bow, inner one step to new partner.

Merry Go Round.

1. Young maid, young maid,
2. Young maid, young maid dear,
3. Go get your hat and parasol,
4. The circus will be here.
5. Ten for the big ones,
6. Five for the small.
7. Hurry up, hurry up, or you cannot go at all.
8. Hop, hop, hop, the day is so clear,
9. For Anderson and Peterson and Lundstrum are here.
10. Hop, hop, hop, the day is so clear.
11. For Anderson and Peterson and Lundstrum are here.

Lines 1, 2, 3, 4. Partners face each other and hop skip on place, forward.

Lines 5, 6. Hop skip sideways on place.

Line 7. Three stamps on each hurry up, first right, then left. Inner partners quickly turn and take hands forming circle. Outside partners place **left** hand on **right** shoulder of partner in the circle.

Lines 8, 9, 10, 11. Inner and outer circles skip to right.

Chain Skip and Dance.

A circle is formed by couples half facing in one direction and half in the other, arranged alternately, so that each couple is facing another couple. Number the couples 1, 2, 1, 2 around, and the 1's are to form arches for the 2's to skip under. Couples take hands.

1. Walk three steps forward and curtsy on 4.
2. Walk four steps backward.
3. Walk forward taking hands of the one opposite, turn and walk back to place again in 6 steps.
4. Walk under arch in two steps.
5. Start over again with next couple.

Ladita.

Take partner's hand and step to center, coming down hard on outside foot—four steps with this foot **in**. Skip our faster in 8 counts. Repeat.

Take partner's hands and skip sideways 4 skips, turn and skip 4 other way, again very rapidly.

Today is the First of May.

1. Today is the first of May,
2. Today is the first of May, May, May,
3. Today is the first of May,
4. Today is the first of May.
5. Adieu kind friends, we now must part,
6. Although the parting breaks my heart ;
7. To other cities gay, we now must take our way.

Partners clasp hands and form a circle for marching in couples.

Line 1. Balance step right, left, right left.

Line 2. Balance step right, left, right, two taps left.

Line 3. Balance step left, right, left right.

Line 4. Balance step left, right, left, two taps right.

Line 5. Partners clasp right hands and swing back and forth, beginning to right of outside partner.

Continue this to end of line 7. Then partners drop hands and **clóg** dance around circle in opposite directions until they meet the one who was next to their last partner. Then repeat the whole.

Rhythmic Game and Dance. (Original.)

Any 4/4 tune. Face partners.

1. Hop skip on place, sideward, 8 counts.
2. Hop skip on place, forward, 8 counts.
3. Stoop, clap, stoop, clap, stoop, clap, stoop, clap (8 counts).
4. Turn from partner in 8 counts.
5. Link right arms and turn in 8 counts.
6. Link left arms and turn in 8 counts.
7. Stoop, clap, stoop, clap, stoop, clap, stoop, clap (8 counts).

Swiss May Dance.

1. The cuckoo is singing, the May is here,
2. In the field and the forest the green leaves appear.
3. Then dance, children dance,
4. While the sky it is blue,
5. Turn around and turn under.
6. While I go with you.

Line 1. Take partner's hand and run lightly to right.

Line 2. Turn and run in opposite direction.

Line 3. Take **right** hand and turn.

Line 4. Take **left** hand and turn.

Line 5. Take inside hands, face each other and turn under the arch.

May Pole I.

Have some little one sit on the pole standard to hold it down.

1. Just walk forward around pole,
2. Skip around.
3. Skip in opposite direction.
4. Walk to center and back.
5. To center and bow.

May Poie II.

Green and White Ribbons.

1. Greens begin. Walk in to center, then out, skipping one person, then in and out until back in original places.
2. White do same in opposite direction.
3. Greens repeat.
4. Whites repeat.
5. When ready to unwind, the whites begin, but go in the direction opposite to that in which they wound. Then greens and whites alternate until unwound.

Do exercise walking until well learned. Then skip it.

May Pole III.

Grand right and left. Greens and whites walk together in opposite directions, weaving, greens over, then under, then over, then under, etc. Unwind in opposite direction. Teach without music.

Skip Dance. 4/4 music.

Form a circle. A leader goes to center and with hands on hips skips to some one in the circle. This skip is a hop from one foot to the other, keeping feet well up, forward. The leader turns and is followed by the one he skipped up to, and both skip to another, turn and are followed. Skip to another and so. As soon as five are in the line each one vanishes back into the circle. Four or five may be leaders and start that many lines if the circle is large, but no line must intersect another.

PHYSICAL EDUCATION.

KINDERGARTEN, GRADES I, II, AND III.

Time to be given: In the Kindergarten the time is not limited. Fifteen minutes daily is the minimum in Grades I, II and III, and this time is divided into two periods, one in the morning and one in the afternoon. Other recreation—rest periods—are given as necessity is felt between recitations.

KINDERGARTEN.

1. Finger plays, dramatization of rhymes.

“Ten little soldiers.”

“Little Miss Muffet.”

“Five little squirrels.”

“This Little Cow.”

“Jump it lively.”

“Jack be Nimble.”

2. Games involving muscular activity, playing about, simple physical movement. Walking, skipping, slow, fast. Contrast of movement to avoid fatigue, active-passive; active-passive.

3. Story plays—the idea suggests the activity. Running along suggests train. Automobile, Wind in storm. Play in snow.

4. Singing games. Simple ones best, those with but little plot, but rhythmic, light, artistic, as: “Dance a little Partner,” “Clap and Bow,” “Pop Goes the Weasel.”

5. Rhythmic work, simple bowing, stepping, running, and skipping exercise.

6. Play with toys.

GRADES I AND II.

Games of skill and competition should not be given to children under 8 and 9 years. Work of these grades confined to marching, rhythmic work, story plays, and singing games more advanced than for Kindergarten.

1. Marching and skipping with singing.

2. Same games as Kindergarten, adding:

“Now with your hands.”

“Sallie, Go Round the Stars.”

“One little, two little, three little children.”

“Harvest Dance.”

“Jolly is the Miller.”

3. Allow the children to suggest series of exercises for a little dance.

4. Dramatization of stories. More of this can be done in Grade II than in Kindergarten and Grade I. These should have activities such as finger plays, play horse, train, and so on. Don't try dialog with them unless they take to it themselves, but don't force your adult plan on them.

Grade II can better dramatize their stories.

GRADE III.

1. Arm and leg exercise, gymnastics with windows open.
2. Marching, skipping with singing.
3. Dramatization of stories.
4. Singing games. Any of above, and
Irish Washerwoman.
Chain Skip and Dance.
A Hunting we will go.
Open the Gates.
Hey Little Lassie.
Today is the First of May.
Merry Go Round.

Singing games and dances are given in the Teachers' Manual, Book I of Music course.

All work of the primary department supplemented by games, dances, and folk dances given in various books when additional work is required.

Physical Training for the City Schools of Michigan.

Social Games and Dances.

Games for Playground and School, by Bancroft.

HOUSEHOLD ARTS.

Home-making we shall emphasize constantly in both Cooking and Sewing. It is not sufficient, however, that we teach the girls to cook, sew and take care of a home. It is the teacher's duty and high privilege to inspire the women-soon-to-be to become home-makers and home-caretakers that are in love with their work.

Lighten the burden of the mothers by giving extra credit to those girls who do a definite part of the home-work for a week—changing kind of work at the end of each week. This regular home-work should first be taught as a regular class exercise in school. After the class is through learning about tea-towels and their making, or the stacking of the dishes and their washing—or any other subject—follow it up with home-work assignment. Keep in touch with this outside work by asking a few questions in class every day.

Once a semester give a Sewing Bee or a Luncheon to the mothers of the girls. Make these functions as informal as possible; put the whole matter—except as to advice and suggestions—into the hands of the children.

COOKING.

Based on Pirie's, *The Art of Home-making*.

7B AND 8B.

While many things contribute to health—sleep, fresh air, and exercise, for instance—the foremost consideration is food. It is quite a problem to know how to choose it wisely from the economic standpoint, but it is also important to know how the science of nutrition can be made to function most successfully in our daily lives.

The work has been so planned that pupils, who must leave school at the end of the eighth year, will have gained a knowledge of the fundamentals and acquired the practical ability to cook meats, vegetables and deserts in their simpler forms. They will also have learned how to buy meats and vegetables and have a knowledge of nutritive values that will enable them to practice the art of cooking with intelligence.

I. Food and Digestion.

Why we need food—Classes of foods—Uses in the body—The digestive organs—How and where digestion takes place—The hygiene of digestion.

II. General Rules for the Kitchen.

Care of Equipment—Rules for the kitchen—Dishwashing.

III. Water and Prepared Beverages.

Water as a beverage—Water in cooking—Tea, Coffee, Chocolate, Cocoa—Cold beverages.

- IV. Composition of Fruits.
Uncooked fruits—Cooked fruits.
- V. Vegetables.
Composition of vegetables—Canned vegetables—Potatoes—
Green vegetables—Dried peas and beans. Vegetable cream
soups—Vegetable salads.
- VI. Canning and Preserving Fruits and Vegetables—Making
Jellies.
- VII. Starches.
Composition of Cereals—Effect of cooking on Starches—
The making of white sauce. The cooking of cereals.
- VIII. Eggs. The cooking of—Using left-overs.
- IX. Milk.
Composition and products.
Digestion of milk.
- X. Meat.
Composition of—Use and digestibility of meat—Cuts of
meats—Quick, moderate and slow cooking meats—Broiling
meats—Roasting and boiling meats—Stewing meats—Soups
and broths. Left-over meats.
- XI. Poultry and Fish.
Methods of cooking chicken—Fish.
- XII. Breads and leavening agents.
Baking powder and other leavening agents—Quick breads.
- XIII. Yeast Breads.
Flour—Cornmeal—Yeast—General rules for bread making
—Uses of stale bread. Sandwiches.
- XIV. Fats and Oils.
Composition of fats—Fried foods.
Pastry—Emulsification of fats. Nuts.
- XV. Sugar.
Composition of Sugar—Candy—Cake frostings.
- XVI. Cakes and Cake Making.
Leavening agents in cakes. Cakes without butter.
- XVII. Simple Desserts.
- XVIII. Gelatin and Frozen Desserts.
Important points in making gelatine jellies. Frozen Des-
serts—Freezing mixture—Properties of salt and ice—Freez-
ing ice cream—Molding ice cream.
- XIX. Rules of Etiquette and Serving.
Table etiquette—Setting and decorating the table—A few
general rules—Formal service.
- XX. Making Menus.
Menus for general use—Menus for special occasions—Serv-
ing for special occasions.

XXI. Household Management.

The part of the housekeeper—Household accounts—Marketing—Pure Foods.

XXII. Laundering.

XXIII. Visit our Public Market. After inspection and inquiry as to how it is carried on, ask a prominent market-gardener to come to school sometime to give us a talk on his business. Visit also the grocery stores and meat-markets, and ask the proprietors to give talks to the pupils. Pay a visit to the Stock Yards at East St. Louis. Ask the Principal to make arrangements for this event.

SEWING.

7A AND 8A

With the sewing, which will include the application of the different stitches in the making of useful articles, darning, and patching, drafting, making and decorating underwear, and simple dresses, we shall include the study of textiles and clothing, talks on the home, its ideals in organization and furnishing, its sanitation and decoration. The aim throughout will be to prepare the girl for home building as an institution of society so managed that we may give the best and most efficient citizens to the community.

I. The different stitches and seams.

a. Even basting; b. uneven basting; c. tailor's basting; d. stitching; e. half backstitching; f. hemming; g. running; h. running and backstitch; i. overcasting; j. overhanding; k. buttonholing; l. slip or blind stitch; m. French seam for damask; n. fell seams; o. French seam.

Ornamental stitches: a. hemstitch; b. catch or herringbone stitch; c. feather-stitch; d. chain stitch; e. outline stitch; f. blanket stitch; g. embroidery knots.

The above to be used in the hand-sewing, in the making and decorating of different articles. Needle case, pin cushion, bag, kitchen apron, towels, cooking apron.

Lead pupils to see why one stitch would be better than another in certain articles.

II. The study of cotton and linen is taken up while working with the cotton and linen materials.

a. Why study the textiles? Woman is the chief buyer and she ought to buy intelligently.

b. Make a collection of cotton and linen materials.

c. Characteristics and properties.

d. Methods of adulteration and ways of testing for them.

III. Darning.

a. Stocking darning.

b. Grafting.

c. Cloth darning as applied to the straightway tear; bias darn and corner darn.

- IV. Patching.
 - a. Hemming on a patch.
 - b. Overhanding on a patch.
 - c. Catch stitching on a flannel patch.

Pupils bring articles for mending from home.
- V. The study of wool and silk is taken up with the darning and patching. Treated similarly to cotton and linen.
- VI. Presentation of Sewing Machine.
 - a. Proper use.
 - b. Care.
- VII. Drafting. The commercial pattern is used most frequently as a time saver, but girls ought to be able to draft simple foundation patterns that can be used all the time. Drafting not only enables a girl to change commercial patterns and use them more freely, but aids her in making patterns from pictures for which she cannot obtain commercial patterns. Patterns to be drafted:—Petticoats, drawers, tight fitting waist from which the corset cover and nightgown are developed. (Here some of the ornamental stitches, simple crochet lace and tatting will be used for decoration.)
- VIII. The "History of Costume" is studied with the making of simple dresses. The girls are asked to read up and report on the different periods—one on Egyptian, another on Greek, etc.
- IX. Costume design should be given particular attention, for once the girl knows the importance of artistic dress she will study her clothes and plan and buy more carefully. Some of the points to be considered are:
 - a. The importance of artistic dress.
 - b. The requirements.
 - c. Unity.
 - d. Dark and light value.
 - e. Value in color.
 - f. Color harmony.
 - g. Lines and colors for different figures.
 - h. Fashion.
 - i. Simplicity.
 - j. Appropriateness.
- X. The Home. Much of this topic is to be discussed with the girls during the hand-sewing. Points to be considered:
 - a. Aims of a home.
 - b. Ideals in establishing.
 - c. Entertainment in the home.
 - d. Furnishings.
 - e. Decoration.
 - f. Household sanitation.

MANUAL TRAINING AND MECHANICAL DRAWING.

Every man is a better citizen for knowing about the ordinary tools and how to use them. No difference what one's occupation will be, he can, when the time comes, do odd jobs about the home. Such work will give most men an excellent opportunity for much needed physical exercise, and, best of all, will teach them to appreciate the work demanded by them of those whom they call to do the work for them.

It is not the aim of the Intermediate School to make skilled workers, but to arouse an interest in and an appreciation of skill as exemplified in what father, brother or uncle is doing.

In addition to the mechanical drawing indicated throughout this course, which shows what is to be done in the shop, there will be a parallel line of work on projects that are to develop the mechanical drawing side rather than that of the manual training.

In the last quarter of the eighth grade, the mechanical drawings are to be used for first practice in inking. A tracing and blue-print is to be made of some of the drawings.

SEVENTH GRADE.

Group I. The laying out process. Sawing and boring.

Tool Operations:

a. Measuring; b. Pencil lining with try square; c. Knife lining; d. Gaging; e. Boring; f. Sawing.

Topics for Class Instruction:

a. Use of rule; b. Use of try square. Name parts. c. Importance of knife lines; d. Use of gage. Name parts. e. Method of boring. Sizes of bits. Names of parts. f. Teeth of saws. How they cut. g. Method of sharpening bits and saws. Use 10c saws for teaching boys how to file and set saw.

Design and Construction:

Two views of an object, to full scale, giving all dimensions. Use of board, T square, and triangles taught. Project: Game Board, Marble Bridge, Trouser Hangers, Home Projects, Home Repair Work.

Group II. The Plane.

Tool Operations:

a. Squaring of stock to its largest possible dimensions; b. Squaring of stock to definite dimensions; c. Method of planing; 1. Plane one wide side, or face, smooth and true. (Mark 1.) 2. Plane best edge at right angles to No. 1. (Mark 2.) 3. Take the best end, square around end with knife line,

chamfer on waste wood side, and plane end square with Nos. 2. (Mark 3.) 4. Measure length from 3, knife line, saw, chamfer and plane squaring by working face and working edge. (Mark 4.) 5. Gage to width and plane edge squaring by face. No. 1. (Mark 5.) 6. Gage to thickness from face. plane side squaring with No. 2., (Mark 6.)

Topics for Class Instruction:

a. Names of parts of plane; b. Position for planing; c. Use of winding sticks; d. End grain planing; e. Chamfering; f. Method of sharpening plane.

Design and Construction:

Drawing made from sketch on the board. Projects: Solitaire Board, Key Board.

Group III. Joining or fastening two or more pieces.

Topics for Class Instruction:

a. Kinds of hammers. Names of parts. b. Nails—Kinds and sizes.

Design and Construction:

Drawing made from model and from sketch on board.

The following are the projects from which the boys are to choose:

Seventh Grade.

1. Wash Stick, Clothes Prop, Wash Bench, Bread Board, Bread or Salt Box, Shelves, Knife, Fork and Spoon Tray, simple Bird House, Flower Box, Flower Stand, Wash-line Winder, Broomholder, Tie Rack, Ironing Board, Spool Holder, Coat and Hat Rack, Key Board, Game Board, Half Costumer, Marble Bridge, Trouser Hanger, Solitaire Board, Umbrella Rack, Home Projects and Repair Work—home or school.

Eighth Grade.

Group IV. Simple Modeling.

Tool Operation:

- a. Method of drawing curves.
- b. Sawing curves with coping saw.
- c. Paring with chisel.
- d. Modeling with spokeshave.
- e. Sandpapering.

Topics for Class Instruction:

- a. Method of drawing curves.
- b. Coping and turn saw. Name parts. Use.
- c. Use of spokeshave.
- d. Chisels and their uses.
- e. Sandpaper. Use and sizes.

Design and Construction:

Drawing made from model and from sketch on board. Break and section, long curve drawn through a series of points. Project: Coat Hanger, Hammer Handle, Birthday Cake Board, Home Project, Home Repair Work.

Group V. Gouging.

Tool Operations:—Use of Gouge.

- a. Direct pressure cut.
- b. Paring cut.

Topics for Class Instruction:

Kind of Gouges. Names of parts. Methods of using and sharpening.

Design and Construction:

Working drawing from model and sketch on board. Projects: Pen Tray, Coffee Pot Stand.

Group VI. Simple Construction.

Topics for Class Instruction:

- a. Importance of straight square edge.
- b. Screws—Kind and sizes.
- c. Boring holes for screws.
- d. Countersinking.
- e. Lubrication of screws and brads with wax or soap.

Design and Construction:

Working from model. Pupil has choice of object to be constructed and may also deviate from model. Projects:—Nail Box, Shoe-shining Cabinet, Picture Frames, Medicine Cabinet, Screens, Toys, Kindergarten Chairs and Tables, Feeding Troughs or Bins for chickens, Chicken Coops or Houses, Chicken Brooders, Fences, Clothes-line Posts, Curtain Stretchers, Wheelbarrow, Foot Stool, Chest, Taboret, Folding Table, Hall Tree, Lamp Stand, Match Strike, Comb Case, Tool Chest, Magazine Rack, Mitre Box.

Note:—Home Project and Repair Work—school or home—are to be greatly recommended.

Group VII. Wood and Wood Finishing.

Topics for Class Instruction:

- a. Selection of proper wood for the project.
- b. Fuming.
- c. Use of filler, stains, shellac and varnish.

Group VIII. Simple Joinery.

Tool Operations:

- a. Laying out joints.
- b. Accurate sawing.
- c. Use of chisel.

d. Making of lap, dowel and dado joints.

e. Gluing and clamping.

Topics for Class Instruction:

a. The laying out of different joints.

b. Manufacture of glue.

Design and Construction:

Working drawing from model and sketch on board. Projects:—Foot Stool, Magazine Rack, Picture Frame, Sled, Waste Paper Basket, and an Elective Project.

Books of Reference.

Woodwork and Carpentry—King.

Essentials of Woodworking—Griffith.

Correlated Course in Wood Work and Mechanical Drawing—Griffith.

Hand Work in Wood—Noyes.

Hand Work Instruction for Boys—Pabst.

Furniture Making—Crawshaw.

Timber Bulletin No. 10—Filbert Roth.

Mechanical Drawing for Secondary Schools—Crawshaw and Phillips.

Educational Woodworking for School and Home—Joseph C. Park.

Problems in Mechanical Drawing—Chas. A. Bennett.

Shop Projects Based on Community Problems—Burton.

Manual Training Magazine—Manual Arts Press, Peoria, Ill.

Design and Construction in Wood—Noyes.

Bird Houses Boys Can Build—Siepert.

Manual Training Toys—Moore.

Problems in Furniture Making—Crawshaw.

Problems in Woodworking—Murray.

Furniture Making—Griffith.

Projects for Beginning Woodwork and Mechanical Drawing—Griffith.

Grammar Grade Problems in Mechanical Drawing.

Type Models in Woodworking—Laughlin.

Applied Drawing—Brown.

QUESTIONS AND SUGGESTIONS ON THE TEACHING OF HANDWRITING.

The importance of penmanship as a subject of the curriculum is frequently underestimated. The standards of attainment should be as definite, and results should be as critically estimated as they are in what some may term as more essential subjects. Penmanship can be made one of the most interesting subjects of the curriculum. The fact that results in it are tangible makes it easy to arouse the enthusiasm of the pupils, and enthusiasm in both teacher and pupils is a prerequisite of success in any undertaking.

Do you give as much thought and attention to the preparation of a penmanship lesson as you do the preparation of an assignment in geography or arithmetic?

Position and pen holding are of first importance. Give special exercise and drills for them at the beginning of a lesson. Movement drills should be given preceding each lesson. They will lay the foundation for good penmanship.

Merely directing the pupils to imitate the copy of a copy slip will not be productive of satisfactory results. Have the pupils compare their writing frequently with the copy. Make comparisons as to size, spacing, slant, uniformity. Use the blackboard often to show how the faults may be overcome. Instruction should be more by showing than by telling. Make the criticism positive rather than negative.

In what grades should correct position and movement receive the greater attention rather than correct form?

The form of the writing is likely to deteriorate for the time being when position and movement are stressed, but it will soon improve if the drill is wisely chosen, and the speed which is used is not too great.

Does emphasis on form mean a sacrifice of speed, and vice versa?

It is impossible to produce a class of good writers, if the effort to improve is confined to the short time devoted to penmanship itself. The penmanship lesson is not an end in itself. If the effects of it do not appear whenever the pupils write, the lesson has been useless. When slovenly written work in other subjects is accepted by a teacher, even the best writers will grow careless. Whatever the written work may be, attention should be given not only to the result, but to the equally important point, the process, namely position, pen holding, movement.

Practice in writing figures is too often neglected. Set off a part of the regular penmanship period at intervals of not less than two weeks, to be given to practice on figures. From time to time arithmetic papers and arithmetic work done at the board should be considered from the standpoint of the figures, their form, size, and pleas-

ing arrangement. The proper movement should be used in all work with figures. They are easily made with the muscular movement and much time is spent each day in making them.

Many helpful quotations are found at the top of the pages of your manual "How to teach writing." A few of them are offered here.

"Practice makes perfect, if it be perfect practice."

"Position and movement are to the penman what technique is to the musician."

"Teachers should use only standard script in all their written work."

"Children are natural imitators, therefore, teachers should set a good example in all their written work."

"Teachers should demonstrate each new letter upon the blackboard with good form and movement."

"Enthusiasm is nine points in good teaching."

"Do not expect proper results with improper movement."

"Have you applied the standard test in penmanship to the work of your class?"

"What effect does it have upon the effort put forth by the pupils?"

"The standards of speed and accuracy must advance together." By applying the standard scale to the writing of your class, you will possibly find that it will be necessary for you to place greater emphasis on either "quality" or "speed" than what you have been doing, depending upon what the results of the test disclose, in order to maintain a proper balance.

Is a pupil who writes slowly apt to be a superior writer?

Is a rapid writer more likely to be a poor writer?

Does rapid or slow writing produce greater fatigue?

Children should be encouraged to measure their own writing. Have you posted your "Standard Scale for Measuring Penmanship" on the wall of your schoolroom so that the children can see it?

Are you furnishing the proper incentive for the motivation of the work in penmanship to the extent that you do for the other branches of the curriculum?

Interest may be stimulated and enthusiasm aroused by the teacher's interest and enthusiasm—"To inspire pupils is the highest aim in writing"; preserve and exhibit written work; prepare material for exhibits; addressing envelopes; friendly rivalry between rows for best position; make booklets of specimens of exercises and other penmanship work; recognition of pupils making improvement. "There are many attractive combinations of the push-pull exercises and spirals, which arouse the children's interest, and should be introduced

as soon as a reasonable degree of freedom has been attained. The pupils should be allowed and encouraged to exercise their own creative ability after a good example of possible combinations suited to their power has been presented to them. The use of colored inks results in realistic butterflies, flowers, fans, quaint costumes, turkeys, and other fowls, cornucopias, log cabins, and automobiles, and gives the children delightful practice instead of tiresome tasks." Some suggestions along these lines are found in your manual.

MUSIC.

GRADE I.

I. Nowhere in the first grade should technical study be expected from the children.

II. Teach by rote all of the songs outlined in Teachers' Manual "Progressive Series."

III. Teach by rote other songs selected by teacher and supervisor.

IV. The teacher should make the children conscious of the rhythm by swinging or clapping her hands.

V. Apply "so" "fa" syllables to songs of the first months outlined or known rote songs.

GRADE II.

I. Material as outlined in Teachers' Manual "Progressive Series."

II. Problems of the Second Grade.

1. Rote songs for pleasure, musical interest, and musical experience.
2. Rote songs that are to be used as a basis for further study.
3. Recognition of similar phrases.
4. Singing songs with "so" "fa" syllables.
5. Visualization drill.

III. The music in the second grade strengthens the tonal and time sense that was awakened in the previous grade. In addition to this, the work of the second year is to train the eye to see graphically what the ear and the rhythm sense have felt and experienced.

IV. The constant use of the pitch-pipe is of the utmost importance, and a thorough understanding of how and when to use it. No song should be sung (even though it begin on 3 or 5 of the scale) until the children have first heard the tonic or home tone.

V. About five minutes each day should be given to rote singing, as rote singing, and the remainder of the period to the observation songs.

GRADE III.

I. Material as outlined in Teachers' Manual, Progressive Series.

II. Throughout the work of the third grade rote singing and a continuation of the observation work and the earlier steps in sight-reading should go hand in hand. The purpose of rote singing is to develop the musical experience in tone, time, rhythm, phrases, and melody; the observation work is to familiarize the pupils with the appearance of the written form of the music he is singing; the first step in sight reading is the beginning of the interpretation of the written form of music.

III. Problems of the third grade.

1. Rote songs for pleasure, musical interest, and musical experience.
2. Rote songs that are to be used as a basis for further study.
3. Comparison of motive and figures.
3. Application of "so" "fa" syllables to known songs.
5. Time problems; the number of beats to the measure, the value of rests, etc.

GRADE IV.

I. Material as outlined in Teachers' Manual, Progressive Series.

II. The diatonic major scale, its structure. Sharp, chromatic, diatonic half-step, flat chromatic half-step. The quarter note beat, dotted quarter and eighth notes.

III. In the fourth grade the children should learn to read music with a fair degree of facility. They should have a good understanding of the simpler time problems, the divided beat, beat and a half, the equally divided beat, triplets, etc.

GRADE V.

I. Material as outlined in Teachers' Manual, Progressive Series.

II. Two part singing.

III. Harmonic Minor scale, its structure.

IV. In this grade we have a more definite presentation of intermediate tones and how represented by the use of the sharp, flat and natural. In the fourth grade they were introduced to the effect of the intermediate tones and learned their names.

In this grade emphasis is laid upon an understanding of the notation of these incidental or chromatic tones.

GRADE VI.

I. Material as outlined in Teachers' Manual, Progressive Series.

II. Review problems of Grades 4 and 5.

III. Melodic Minor, its structure.

IV. Three part singing.

SCHOOL ORCHESTRA.

A satisfactory combination for school orchestra would be,

String	Woodwind	Brass
1 Violin	Flute	Cornet
2 Violin	Clarinet	Trombone
Viola or Violincello		
	Drums or tympani	
	Piano	

At least six different instruments should be represented. Grammar School Orchestras not only furnish valuable educational advantages for their members, but are of great importance in stimulating school spirit, assisting in school entertainments and graduating exercises.

SEVENTH AND EIGHTH GRADES.

Chorus (Mixed).

Chorus practice will include the practice of sight reading in nine major keys, as well as the regular chorus work. The chorus will give at least one entertainment each year.

Orchestra.

The orchestra will meet once a week, special stress will be given to ensemble work, sight reading, bowing, etc. This will be helpful to the students of various instruments. The object of this class will be to unify and motivate the work done with private teachers. It will supplement, never supplant, the work done outside of school.

Glee Club.

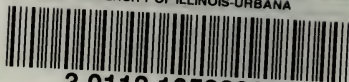
This will be of decided advantage to boys' voices and their further musical training. The material used will be such as is suitable for boys' changed and unchanged voices.

Elementary Harmony.

The course in elementary harmony will include tones and their transposition to different octaves, the major and minor scale and their transposition, intervals, and the fundamental chords and the art of combining them.



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